

# Marine Review

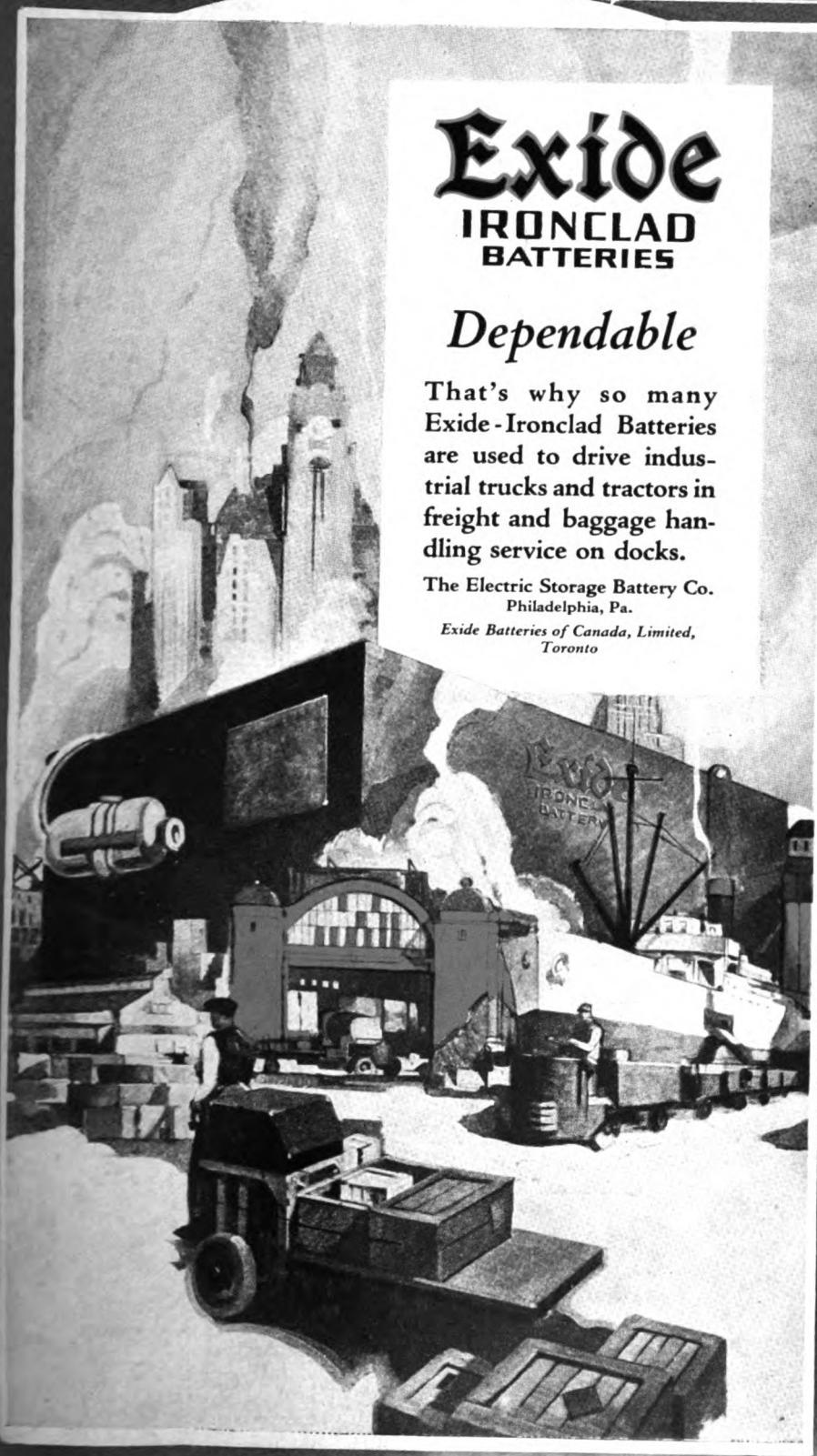
MAR 5 1926

THE BUSINESS OF TRANSPORTATION BY WATER  
NEW YORK CLEVELAND LONDON

Published Monthly  
Vol. 56, No. 3

MARCH, 1926

\$3.00 a Year  
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## Your Guide To this Issue

### A Merchant Marine

THE United States is a maritime country and it needs a merchant marine of its own. Foreign trade cannot be fostered by foreign carriers.

*See Page 11*

### British Shipping

IT HAS been impossible to book cargoes, consistently, at rates that would pay. That has been the main trouble with British shipping. But conditions are gradually getting better.

*See Page 13*

### Motorship Asturias

WE THINK of the British as conservative and old fashioned and of ourselves as progressive and modern, yet they are bringing out the world's largest Diesel ships.

*See Page 14*

### Bracketless Ships

TO BUILD a ship without brackets seems too good to be true, but it is being done abroad and soon will be done in the United States. This system is particularly adapted to tankers.

*See Page 16*

### Rescues at Sea

AMERICAN seamen have been especially fortunate during this winter in being able to render help to their fellow mariners in distress. Traditions of the sea have been maintained.

*See Page 23*

### Quick Despatch

WENTY-SEVEN years of American influence in the Philippine Islands have left their impress. Nowhere more so than on the harbor and Port of Manila and its facilities.

*See Page 28*

# What price energy?

**W**HEN you buy oxygen you buy so much energy. It is concentrated energy, concentrated ability to do many kinds of unusual work.

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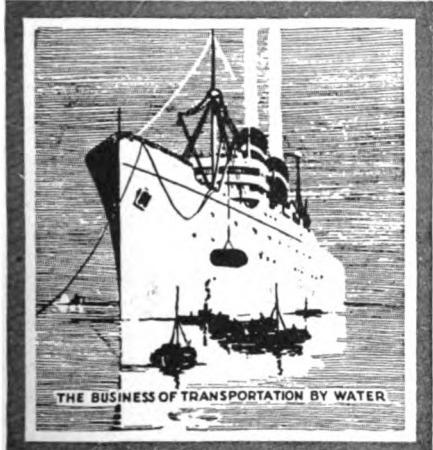
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# Marine Review

*The National Publication Covering the Business of  
Transportation by Water*

FOUNDED 1878



Published monthly by  
The Penton Publishing Co.,  
Cleveland, Ohio, U. S. A.

Cleveland Office, Penton Bldg.  
H. Cole Estep, Vice President  
A. H. Jansson, Editor  
J. D. Pease, Advertising Director  
F. V. Cole, Circulation Manager  
H. N. Pickett  
H. O. Taylor

Boston Office, 1037 Old South Bldg.  
H. R. Simonds

Chicago Office, 1147 Peoples Gas Bldg.  
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Subscription United States and its  
possessions, \$3 per year; Canada \$4.00;  
Great Britain and other Foreign Countries,  
£1:00. Single copies 35 cents. Back  
numbers over three months 50 cents.  
The Cleveland News Co. supplies the trade  
with MARINE REVIEW through the  
regular channels of the American News  
Co. European Agent, The International  
News Co., Breams building, Chancery  
Lane, London, E. C., England.

Member, the Audit Bureau of Circula-  
tions, Associated Business Papers, Inc. and  
the National Publishers Association. En-  
tered at the Post Office at Cleveland, Ohio,  
as Second Class Matter, under the act of  
March 3, 1879. Copyright 1926 by The  
Penton Publishing Co., Cleveland, O.

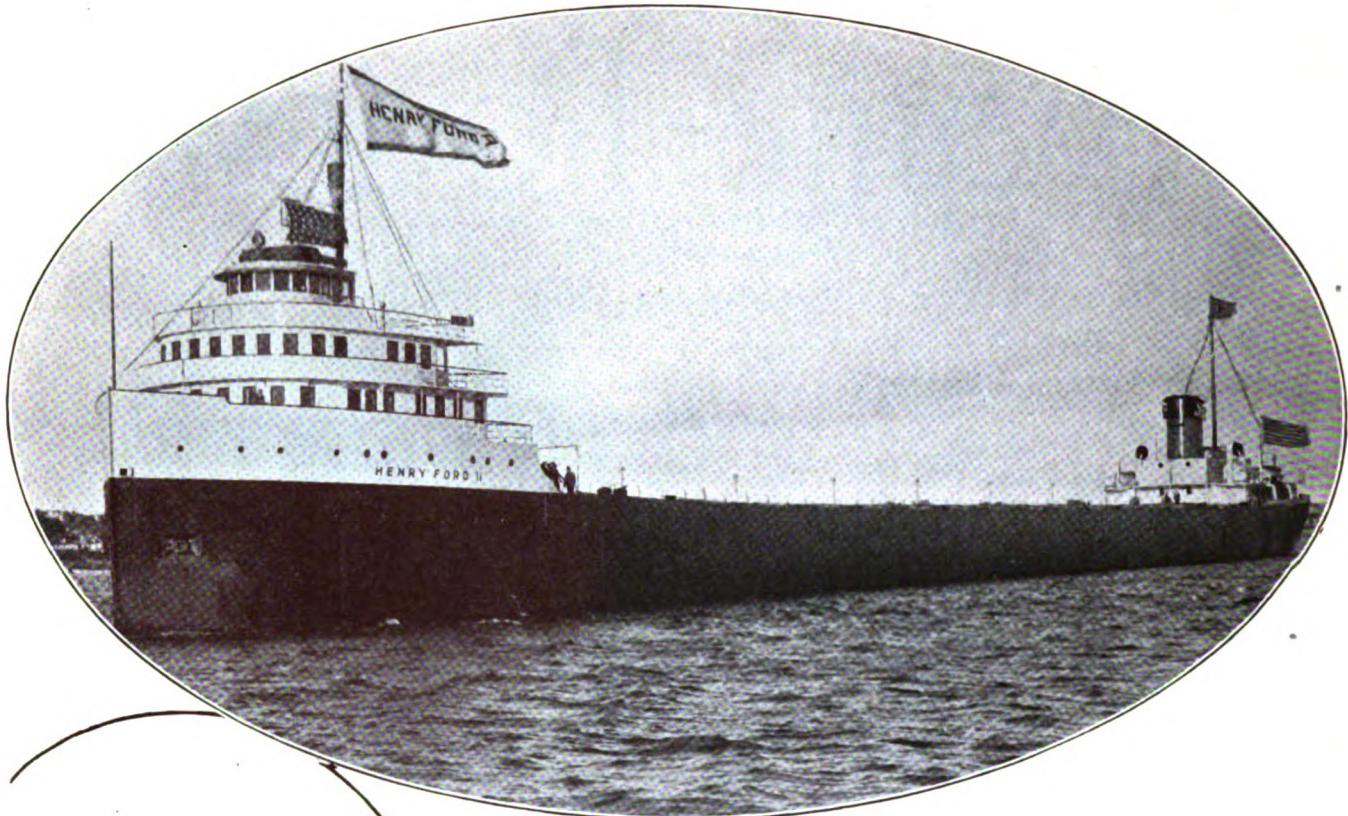
## CONTENTS

Vol. 56

March 1926

No. 3

United States Must Have a Merchant Marine....	11
Winthrop L. Marvin, 1863-1926.....	12
British Shipping Still Suffers.....	13
By Vincent Delport	
Big Diesel Liner Is Completed.....	14
Rivadavia Completes Successful Trials.....	15
Bracketless System Improves Shipbuilding.....	16
To Launch Malolo in June.....	17
By Charles J. Post	
Use Decked Lifeboat in Rescue.....	21
Shipbuilding for 1925.....	22
Mohawk Sails on Maiden Voyage.....	22
Maintain Best Traditions of the Sea.....	23
Low Levels Reduce Cargoes.....	24
Leader Needed in Congress.....	25
By Fred B. Pletcher	
From the Old Log Book.....	26
Photographs from Far and Near.....	27
Get Quick Despatch at Manila.....	28
By Lawrence Benton	
Reviews of Late Books.....	30
Through Panama Canal.....	30
What the British Are Doing.....	31
What's Doing Around the Lakes.....	31
Maritime Law, Late Decisions.....	32
By Harry Bowne Skillman	
Launch Nine Vessels in Three Hours.....	36
Speed, Power and Fuel, Gripsholm.....	42
Derrick Barge for Heavy Lifts.....	46
Recent Sales of Ships.....	50
Sales, Orders, Positions Open.....	52
Ocean Freight Rates.....	56
Personals, Watkins, James, Becker.....	58
Port Statistics Condensed.....	60
Marine Disasters, Late Flashes.....	62



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*Built by The American Ship Building Company*



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# United States Must Have a Merchant Marine

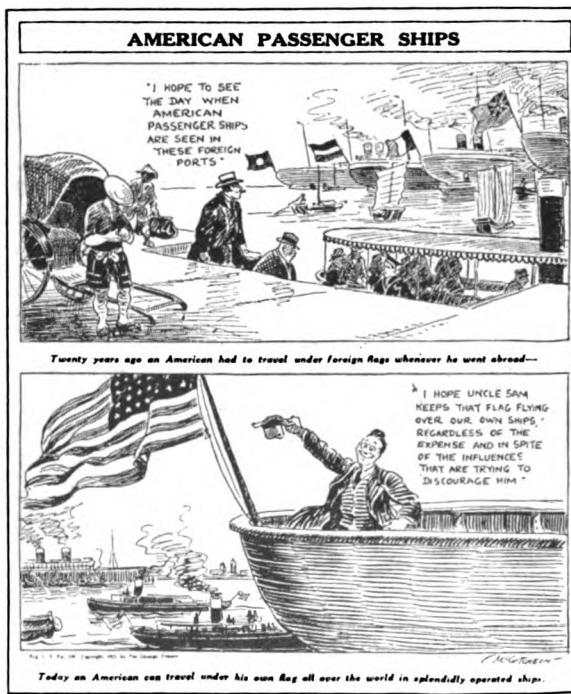
ALL conditions surrounding American privately owned ocean-going shipping improved during the year 1925. With reasonable unanimity of opinion among real American shipping men as to the nature and extent of the difficulties that are retarding the growth of the merchant marine, the improvement would have been still more marked.

It is inconceivable that a great rich powerful nation fronting on two oceans, and the chief participant in the world's trade, should not have a merchant marine of its own. Such a marine must come through economic pressure. What are the arguments quoted against that possibility? Simply that since we have such wonderful natural resources and have grown so prosperous and have raised our standard of living to so high a point, it is impossible to attract our better young men to the sea; that higher costs of building and operating ships make it impossible to compete; that other nations are so situated that shipping means their very existence and that we should therefore let them enjoy undisturbed their position on the sea.

But these arguments do not hold in an economic way. We are not striving to become the great common carrier on the seas. On the other hand, we have so much at stake that we cannot help being seriously disturbed by knowing that we are completely at the mercy of any foreign ocean carrier. It is this state of mind, whether knowingly or not, that is at the very foundation of a legitimate and justifiable hope for a future merchant marine. And it has had its effect in keeping American ships on strategic routes.

In the extent of voyage, size of ship and all other seagoing experiences the domestic coastwise and intercoastal trade has all the standing of overseas shipping except that it is protected. This trade and all domestic shipping must grow with the country to far greater proportions than is realized. At the same time there will be a continuous steady and persistent increase in participation in the foreign carrying trade.

Government ship lines established and operated at a loss where necessary, have blazed the way and when sold to private individuals, will have accom-



Reprinted from the *Chicago Tribune*

plished a definite purpose. That purpose is to remove our complete dependence on foreign ships in those particular runs. Everything else being equal, the American merchant would be much better served and would prefer to ship his goods in American ships.

From a statement prepared by the bureau of research of the United States shipping board, the number of privately owned American ocean-going steam or diesel vessels 1000 gross tons and over in foreign and domestic trades has increased from 941 on Jan. 1, 1925 to 1026 on Jan. 1, 1926, an increase of 85 or 8 per cent. While the gross tonnage shows a net increase of 391,367 tons, or 11.7 per cent, American passenger and gen-

eral cargo vessels in the overseas foreign trades increased both in number and average size. The coastwise and intercoastal trades showed the greatest improvement of any of the services with an increase of 132 vessels and 585,031 tons employed. Atlantic and gulf coastwise showed an increase of 100 ships of 373,033 tons.

Intercoastal trade increased by 38 vessels and 174,504 tons. The Hawaiian and Porto Rican trades both showed a healthy increase. The American shipowner should study the mechanical efficiency of his ships, and every phase of the cost of operations, with the view of increasing the output and cutting down the cost. He should see that good officers and men are picked and that all branches of the

shore staff and office, work to the very best advantage. After all, it comes down to this, that that steamship company, be it American, British or any other nationality, which is operated most efficiently and is most wisely directed will survive. Because it must be remembered that with certain disadvantages in higher costs there are also certain very definite advantages that accrue to the American ship, and with wise government aid and the growth of population, industry and markets in the United States, these advantages will increase. By working together and having the same faith in the destiny of America afloat as ashore the future of American shipping is assured, though the growth may be slow and difficult.

## Winthrop L. Marvin--1863-1926

**I**N THE sudden death of Winthrop L. Marvin, vice president and general manager of the American Steamship Owners association, on Feb. 3, in New York, the American merchant marine lost one of its most devoted champions. He was taken suddenly ill, with an acute attack of cerebral hemorrhage, on his way to his office, and was removed to his home at 588 West End avenue where he died within a short time without regaining consciousness.

It may be said of Winthrop L. Marvin that he fought the good fight to the end and that he never missed an opportunity to help forward the cause of the American merchant marine by word or deed. How genuinely close to his heart this cause lay may be gauged by the fact that at the time of his death, one of his sons was actively serving as second officer on an American freighter. He inherited a love and respect for the calling of the sea from his New England forebears and he recorded in his writings a history of the American merchant marine in both its economic and human aspects. Episodes of the American navy from its earliest days, displaying true seamanship and fighting qualities, also greatly appealed to him, and his writings along this line would serve well as a reading course in Americanization. No one could very well have been more thoroughly

steeped in the seafaring traditions of our country. But with it all he was quick to recognize and give due credit to gallantry and skill on the part of the adversary or competitor.

Winthrop Lippitt Marvin was born at New Castle, N. H., May 15, 1863. He graduated from Tufts college in

married to Nellie Meloon of Portsmouth, N. H., in 1885. From 1884 to 1886 he served as reporter and night editor on the *Boston Advertiser*. Continuing his newspaper work he advanced through all departments until he became associate editor and chief editorial writer on the *Boston Journal* in 1895-1903. He was a member of the Massachusetts civil service commission 1901-1904; secretary of the United States merchant marine commission at Washington, D. C., 1904-1905; and later he became secretary-treasurer of the woolen goods exchange of New York. During the war he was secretary of the joint committee of wool manufacturers which co-operated with the council of national defense.

As time went on his first interest became the development of the American merchant marine and in 1919 he came to New York to take charge of the administration Steamship Owners association. He was soon made vice president and general manager which position he held at the time of his death. On coming to New York he also bought a half interest in *The Marine Journal*, later becoming sole proprietor. To his many friends and former associates in Boston when they urged him to return to resume his old position there, he said: "I cannot leave shipping; it has grown to be my life."



1884 with the degree of bachelor of arts. In 1903 his alma mater conferred upon him the honorary degree of doctor of literature. He was

# British Shipping Still Suffers

Shipbuilding Declines—Freight Rates Low—Much Tonnage Idle—Conditions at End of Year Improve—Labor and Capital Agree To Increase Output—Exports Drop—Imports Grow

*from  
Surplus Tonnage  
and  
Keen Competition*

BY VINCENT DELPORT  
*European Manager, Marine Review*

INETEEN-TWENTY-FIVE has come and gone and the British shipping and shipbuilding industries have begun the new year with the same dismal outlook as a year previously. The same difficulties must be faced and the same problems remain to be solved. A hopeful feature is the endeavor of employers and workmen in the shipyards to co-operate with each other in trying to find more efficient methods of operation, thus perhaps reducing production costs

The past year has been regarded as disastrous by shipowners. According to Lord Inchcape, 1925 has been the worst year shipping has ever experienced. Freights have been unremunerative and about 800,000 tons of vessels were tied up in British ports at the end of the year because they could not obtain profitable cargoes. Further difficulties have arisen due to the troubles in China which have seriously affected British trade, and the strike of seamen and firemen in Australia

any time since 1913. The lowest rates were experienced in August and September when the effects of the threatened coal strike were felt. Slightly better conditions were experienced since October and the purchases made at that time by the United States were welcome. Disappointment was experienced in the Black Sea when the Soviet government estimated that 1,500,000 tons of shipping would be needed to move the large crops which they expected to export. There was a

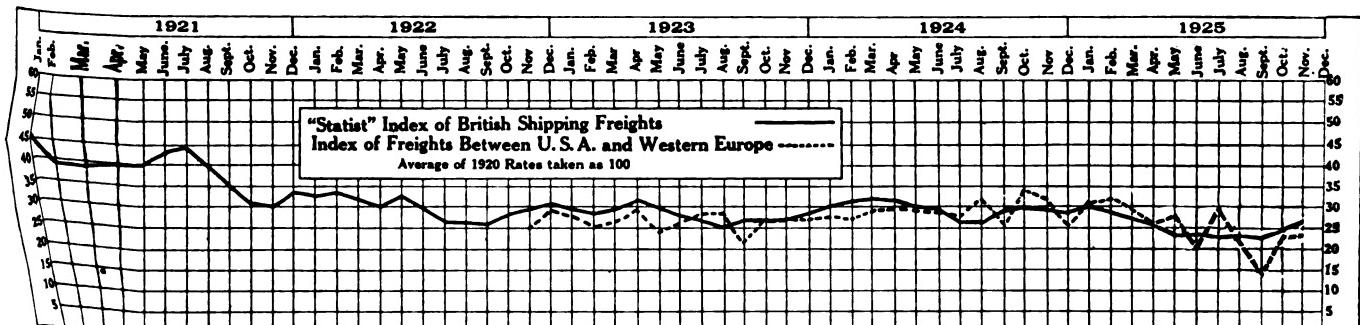


DIAGRAM SHOWING FLUCTUATION OF OCEAN FREIGHT RATES FOR FOUR YEARS AND ELEVEN MONTHS

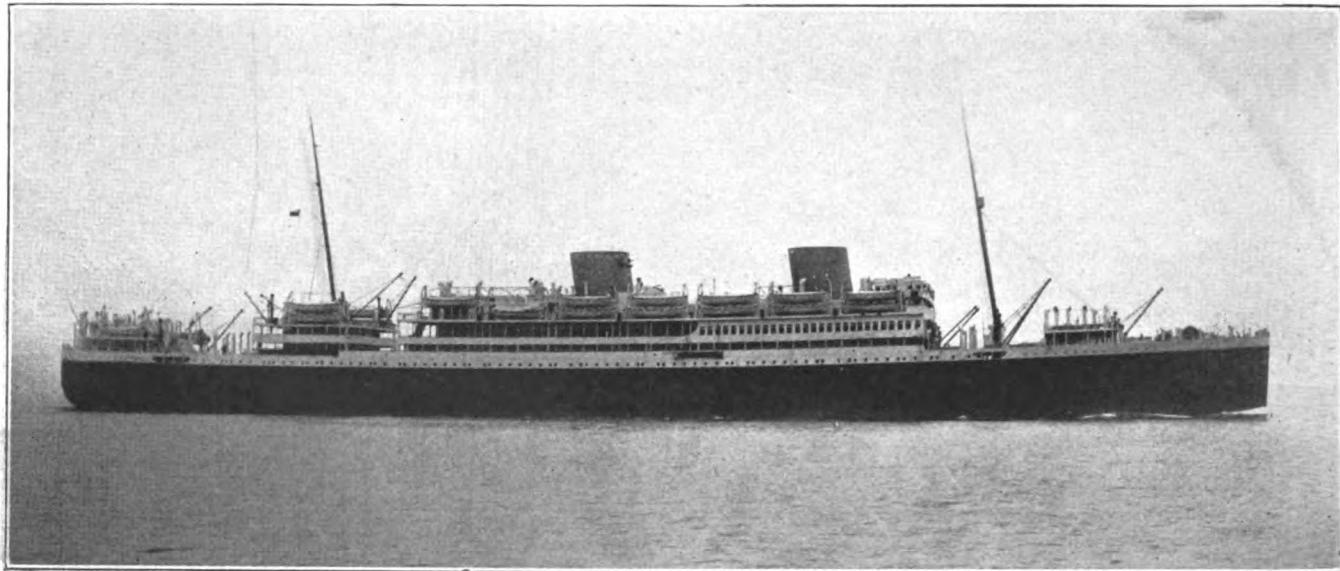
sufficiently to enable them to capture some business from their continental competitors. Little relief is found as yet in the British coal mines, and everyone is anxiously awaiting the report of the Royal commission of inquiry on the economic conditions of the coal trade in order to know if there is any chance of improvement. This report is not expected to be ready before March. The relief offered by the government's subsidy ends on May 1, and it is hoped that some steps may be taken by them to restore more nearly normal conditions. The freight market has been fairly active during the last three months of 1925, but rates were not such as to yield much profit to owners among whom keen competition was experienced.

and South Africa, which caused heavy losses to shipowners. The highest homeward freight rate for grain from Buenos Aires in 1925 was 22s 9d (\$5.50) and the lowest rate was 10s 6d (\$2.55); the rate on Jan. 1, 1926, was about 18s 6d (\$4.55). The highest outward rate for coal from Cardiff for the Near East was 13s 9d (\$3.35); the lowest rate was 8s 3d (\$2), and the rate on Jan. 1 was 10s 6d (\$2.55). Apart from excess tonnage which has caused shipowners to drop their rates to obtain business at any cost, their losses have been increased by the high port charges and stevedoring rates prevailing in British ports.

Although there was a fair demand for outward coal tonnage through the year, rates were lower than at

strong demand from India at the beginning of the year, but it subsided about the middle of February and remained low. The wheat crop in Australia was so large that chartering commenced in 1924 and rates rose to a high level, to such a point that steamers came in ballast from the United Kingdom. Then competition was such that rates dropped about 7s (\$1.70) at the end of February, and at the beginning of April the fall was about £1 (\$4.85). The present crop is considerably smaller than the last and present freight rates are low. Rates in the North Pacific and North Atlantic were more satisfactory. Trade with South America was of the worst description and a large

(Continued on Page 84)



Twin screw M. V. ASTURIAS—Length overall 655 feet 8 inches, beam 72 feet, depth 45 feet, gross tonnage 22,137—Two double acting engines of 10,000 indicated horsepower each

# Big Diesel Liner Is Completed

**T. S. M. V. Asturias—Largest, Most Powerful and Most Luxurious Oil Engined Vessel in the World—Delivered by Builders to Owners**

THE Royal Mail Steam Packet Co.'s twin screw M. V. ASTURIAS of 22,137 gross tons which enjoys the distinction of being the world's largest and most powerful motor ship as yet completed and in service, left Belfast Jan. 12, 1926 on her preliminary trials. By general consent the new vessel is one of the most outstanding ships that has ever left the hands of her builders, Harland & Wolff Ltd. Whether the vessel is regarded from the aspect of her beautiful external lines and distinctive funnels, the luxurious appointments of her ample passenger accommodation, or her two great four-cycle double acting Harland-Burmerster & Wain motors developing their 20,000 indicated horsepower, she is alike noteworthy and justifies in full measure the world-wide interest that has been aroused.

## For South American Service

Intended for the Royal Mail Co.'s South American service, the ASTURIAS will set up a new record for comfort and luxury much in advance of anything hitherto seen on the South Atlantic. Of imposing dimensions—she is 655 feet 8 inches overall, 630 feet between perpendiculars by 78 feet beam and 45 feet in depth—the new vessel has accommodation for about 1800 passengers and crew, and complies with the requirements of the board of trade and Spanish law. There

are 17 public rooms throughout the ship of fine architecture, including the first-class dining saloon two stories high, with its vast expanse of floor, the social halls, lounge, winter garden, smoke rooms, Pompeian swimming bath, children's playroom, and other apartments, ensuring the most pleasant social amenities for young and old.

The propelling machinery of the ASTURIAS naturally places this vessel in a class by herself, not only by reason of the size of her Diesel engines—which are the largest units hitherto constructed—but also as introducing to the British mercantile marine the four-cycle double-acting principle as applied to marine propulsion. The Royal Mail Co. are therefore to be congratulated on their enterprise in adopting the most modern type of machinery, not only for the M. V. ASTURIAS but also for the sister vessel M. V. ALCANTARA at present under construction by Harland & Wolff.

These large double-acting engines are a development of all the successful features so well known in the single-acting type built for many years past by Harland & Wolff. The maneuvering controls are at floor level at the center of the engines, and each engine can easily be controlled by one man.

The crankcases are totally enclosed, and forced lubrication is used. In

fact, from the top of the columns downward the engines are practically indistinguishable from the single-acting engines of the same type. The same can be said of the top cylinder covers with their push rods and valve gear. The pistons are oil cooled, and the cylinder jackets and covers are cooled by means of fresh water. The valve gear for the top and bottom cylinder covers is worked from a single camshaft, in conjunction with two weigh shafts for maneuvering.

Each engine drives its own twin blast air compressor off the forward end of the crankshaft. Flywheels and electrical turning gears are fitted aft. Thrust blocks are of the Michell type.

## Auxiliaries Electrically Driven

The auxiliary machinery in the wings of the ship for the use of the main engines, consists of electrically driven pumps for salt water, fresh water, lubricating oil and fuel oil; also coolers for fresh water and lubricating oil, and sets of filters. Six maneuvering air reservoirs are fitted.

Four auxiliary Diesel generator sets of 400 kilowatts capacity each are arranged in a room forward of the main engine room. Each set consists of a four-cylinder trunk type Diesel engine coupled to a direct-current dynamo, mounted on a common base plate. A separate jacket cool-

ing system is arranged for the auxiliary engines.

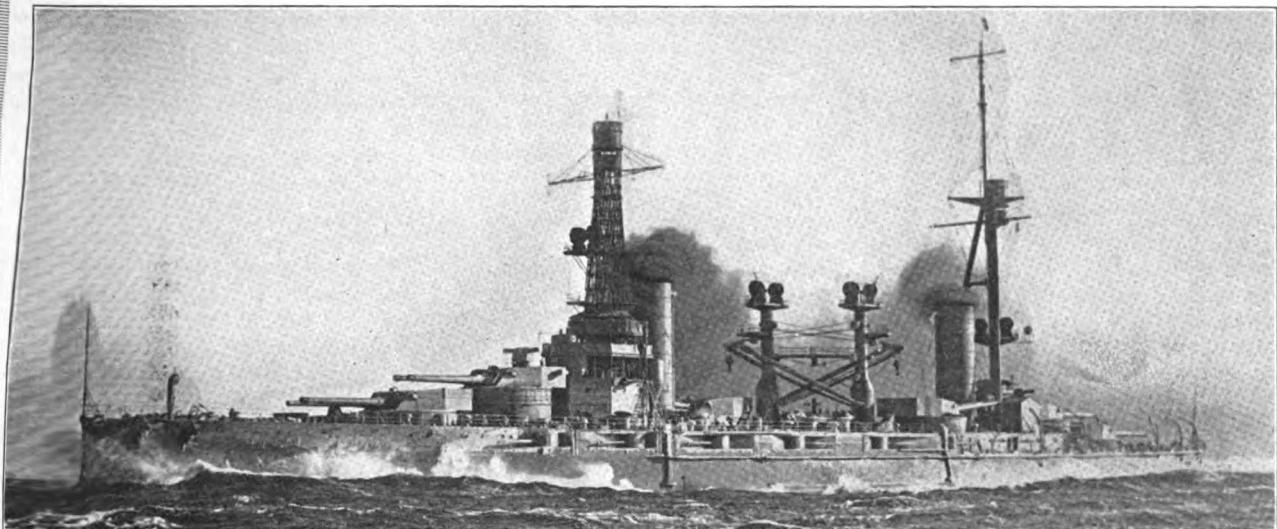
The motorship ASTURIAS arrived at Southampton where she was open for inspection on Feb. 12 prior to sailing on her first voyage. The trials were successful in every way, even greater power than was guaranteed being got from the engines, while the speed was beyond expectations. There was noticeable absence of vibration, and

the experts on board were delighted with the result of the trials, both over the measured mile and the 48 hours' non-stop run. The sister ship of the ASTURIAS, the ALCANTARA, is going ahead steadily and will be in the water in about six months. The outer plating is completed and the deckhouses erected.

Two other great motorships are at present under construction, the CAR-

NARVON CASTLE, which is being built on the Clyde for the Union Castle Line, and the SATURNIA, which has just been launched at Trieste and will be used on the South American route. The ASTURIAS and SATURNIA will be followed by sister vessels, the ALCANTARA and the URANIA. Tenders have also been invited for the two new 20,000-ton motorships for the New Zealand service.

## Rivadavia Completes Successful Trials



RIVADAVIA on her standardization trials, Rockland, Me., Jan. 21, 1926—After Reconditioning at Fore River

**T**HE Argentine battleship Rivadavia successfully completed machinery and gun firing trials and returned to the Fore River plant, Jan. 29, 1926. Results obtained on the various machinery and gun trials exceeded the contract requirements and were highly satisfactory to both the Argentine naval commission and the contractor.

The vessel was built at the Fore River plant, Quincy, Mass., and has a normal displacement of 27,500 tons, overall length of 595 feet and breadth of 98 feet. The standardization trial was run at Rockland, Me., on Jan. 13 and 16, 1914. A speed of 22.5 knots was attained. She was first commissioned in the Argentine navy in October, 1914. Contract for reconditioning the Rivadavia was signed in June, 1924 with the Bethlehem Shipbuilding Corp., Ltd., Fore River plant, Quincy, Mass. She arrived at Fore River Sept. 9, 1924 and work was started the same day. The principal items of work consisted of: Replacing old direct drive turbine installation with new turbines and reduction gears of modern design, consisting of three sets of turbines and reduction gears, one set for each shaft. Each set has one high pressure and one low pressure turbine, the astern element being included in the low pressure turbine casing. Designed horsepower is 45,000 per ship or 15,000 per shaft. Converting eighteen Babcock & Wilcox boil-

ers from coal to oil burning, each boiler being fitted with five fuel oil burners. Coal bunkers converted to fuel oil tanks having a capacity of 4200 tons of fuel oil. Modifications were made to the ammunition hoists of the six 12-inch gun turrets. A complete system of fire control for the guns was installed, and also modern improvements to the gas ejecting system for the 12-inch guns to eliminate the possibility of back fire. Installation of Sperry gyro compass and modern range finders. Many improvements were also made in the electrical installation.

Preliminary trials were held on Jan. 10. Upon completion of the preliminary run the vessel was placed in the large naval dry dock at South Boston where she remained from Jan. 11 to 20. Trials started at 8:00 a.m. Jan. 21, 1926, and runs were made over the measured course at Rockland, Me. After standardization trials were completed, the following machinery trials were run: 24 hours' trial at 15 to 17 knots; 12 hours' trial at 20 knots; 6 hours' trial at full speed at 22.5 knots and full speed astern for one-half hour. All other installations were tested during these trials. After the machinery trials were completed, the gun trials were conducted on Jan. 28 and several salvos of the twelve 12-inch guns were fired successfully.

Upon completion of all the ma-

chinery and gun trials and other tests the vessels returned to the Fore River plant. It is expected that the Rivadavia will return to the Argentine Republic sometime early in March.

The trials were made under the direct supervision of the following Argentine navy officers: Rear Admiral Julian Irizar, president of the Argentine naval commission in the United States, Capt. Engineer Esteban Ciarlo, Lt. Commander G. D. Bustamante, Lt. Commander D. Casanova. The vessel was in charge of Capt. Felipe Fliess, assisted by Commander Ernesto Morixe, executive officer and Commander Gualterie Carminatti, chief engineer. Representatives of the Fore River plant present at the trials were: E. B. Hill, vice president; S. W. Wakeman, general manager; H. E. Gould, general superintendent; J. E. Burkhardt, chief engineer and Capt. J. I. Kemp, pilot. Wilfrid White adjusted the compass. The United States navy department was represented by Commander T. H. Taylor of the first naval district.

The time spent in this country by the officers and men of the Rivadavia has done much to strengthen friendly relations between the two American republics. The work of reconditioning this vessel has been carried on with a fine spirit of co-operation which has contributed largely to the successful conclusion of the trials.

# Bracketless System Improves Ship Construction

ALL who are conversant in the slightest degree with shipbuilding are aware of the rapid increase which has taken place in the number of ships built on the Isherwood system of longitudinal framing, since its introduction in 1907. This increase has been most marked in vessels which have been constructed to carry oil in bulk, as the following figures will show. At present Isherwood framed vessels number about 1492 and aggregate over 12,500,000 tons deadweight; of this number 696 vessels of about 6,750,000 tons deadweight are vessels for carrying oil in bulk. The latter figures are most remarkable when it is recorded that, excluding tankers of less than 1000 tons, the total tonnage of oil-carrying vessels recorded in Lloyd's register book at July, 1925, was 5,384,290 gross tons.

Until the introduction of the Isherwood longitudinal system of framing the problem of carrying oil in bulk presented great difficulties. The earliest method adopted was to convey the oil in barrels placed in the holds of ordinary cargo vessels. This was later improved upon by substituting for wooden barrels a large number of small cases of iron. From these cases to large iron tanks, situated in the holds and 'tween decks, was a natural development which soon expanded into a double-skinned vessel, the inner skin

forming large rectangular tanks and becoming an integral part of the structure of the vessel. The latter type of vessel did service for some time until the idea was conceived to remove the inner skin and make the shell itself act as the side of the tanks. Thus the modern form of tanker with its large rectangular tanks was evolved by a series of progressive

tankers continued to be built with ordinary transverse framing and heavy side stringers, the hull being divided and sub-divided by a series of oil-tight transverse bulkheads extending to the shell of the ship and an oil tight center-line bulkhead.

In view of the peculiar nature of liquid cargoes and the heavy local strains set up in the structure of a vessel when carrying such cargoes, a high standard of strength is essential, and despite all that was done to improve the structure in the light of past experience, the transverse system of framing was not particularly successful in meeting the exceptional demands made by the oil-carrying cargo vessel. In the old style of transverse construction there was continual trouble and leakage taking place in the bracket connections and the oil tank bulkheads in addition to the damage sustained in bad weather due to the deficiency in longitudinal stiffening and general longitudinal strength. The Isherwood system overcame the latter trouble and greatly minimized the former and at the same time provided, at less first cost, a considerable increase in deadweight carrying capacity. This system of construction is too well known to our readers to require description and they are doubtless aware that Lloyd's register of shipping has adopted this system in the formulation of its rules

(Continued on Page 38)

Reprinted from *Shipbuilding and Shipping Record*.

## Bracketless System for New American Tanker

It is understood that the large twin screw diesel tanker recently ordered by the Gulf Refining Co. from the Federal Shipbuilding & Dry Dock Co., Kearny, N. J., will be constructed on the new "bracketless system" of longitudinal framing described in this article. This tanker will be 543 feet 6 inches in length overall, 74 feet in beam, 40 feet 6 inches in depth and of 17,400 tons deadweight, and it is expected will be completed ready for service late this year or early in 1927.

steps, but it is significant that up to the birth of the first real tanker the designers' energies appear to have been directed towards the developments of what may be termed the oil containers, the construction of the hull proper being, seemingly, left to look after itself. As a consequence,

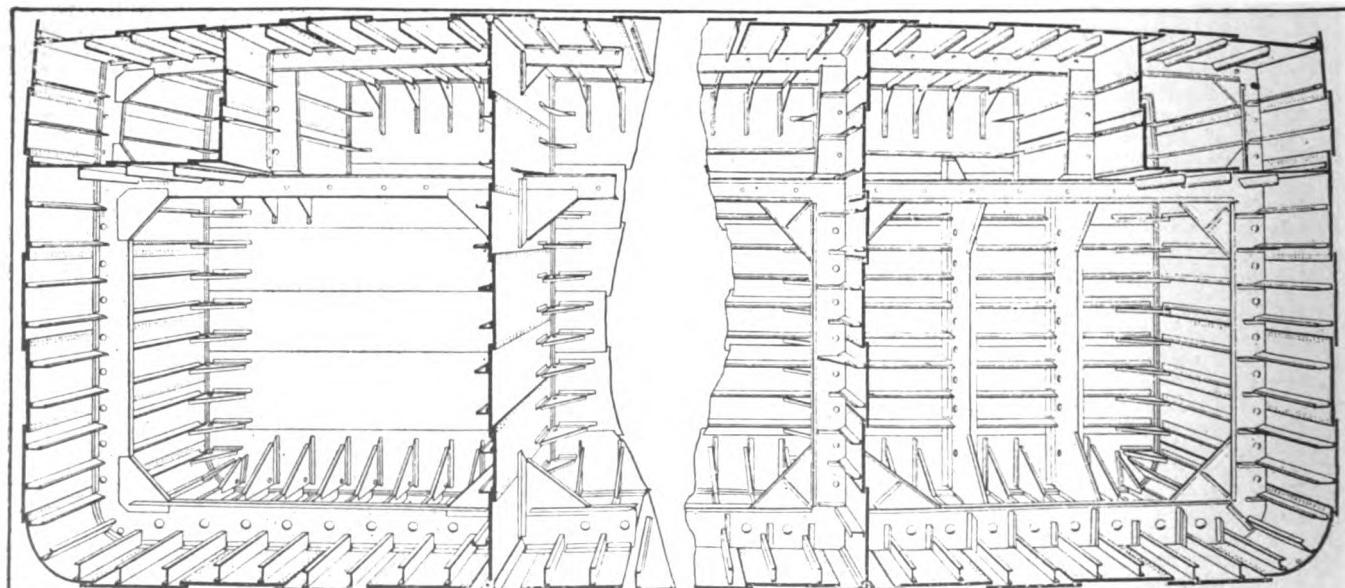


FIG. 1—ORDINARY ISHERWOOD SYSTEM—AT LEFT, CAULKING SIDE OF BULKHEAD—AT RIGHT, STIFFENING SIDE OF BULKHEAD

# To Launch Big Liner in June

Hull and Machinery of S. S. Malolo Progressing as Per Schedule at Cramp's—Framed and Plated Except at Bow—Boilers in Place

BY CHARLES J. POST

AS THE MALOLO slips down the greased ways into the placid Delaware this spring a vessel will be launched that has attracted, and is attracting more attention than any ship built in this country since the great days of the old clippers, when the American merchant marine rode supreme on all the seven seas. And Great Britain copied the lines of our ships or bought our clippers whenever a purchase could be made.

Today, the MALOLO represents in design, efficiency, security and luxury, the last word in marine architecture the world over. She is the largest, highest-powered, and swiftest passenger ship ever built in the United States and belongs in the small group of the leading ships of the world in size and speed and carrying capacity. She is among the first eight passenger ships of the world in

The author, Charles J. Post, is special assistant, Gibbs Bros. Inc.

speed, and of the first five in first-class passenger carrying capacity, and one of the first eighteen in point of size. And, in point of luxury, there is not a ship in the world that can surpass the MALOLO.

The days of the sea are coming back, for the land is covered with a network of railways and we are already an international nation, and the MALOLO is in all respects a worthy leader of the movement that must begin—and is beginning—to restore to the high seas the glorious merchant marine that was once our pride and the envy of the world.

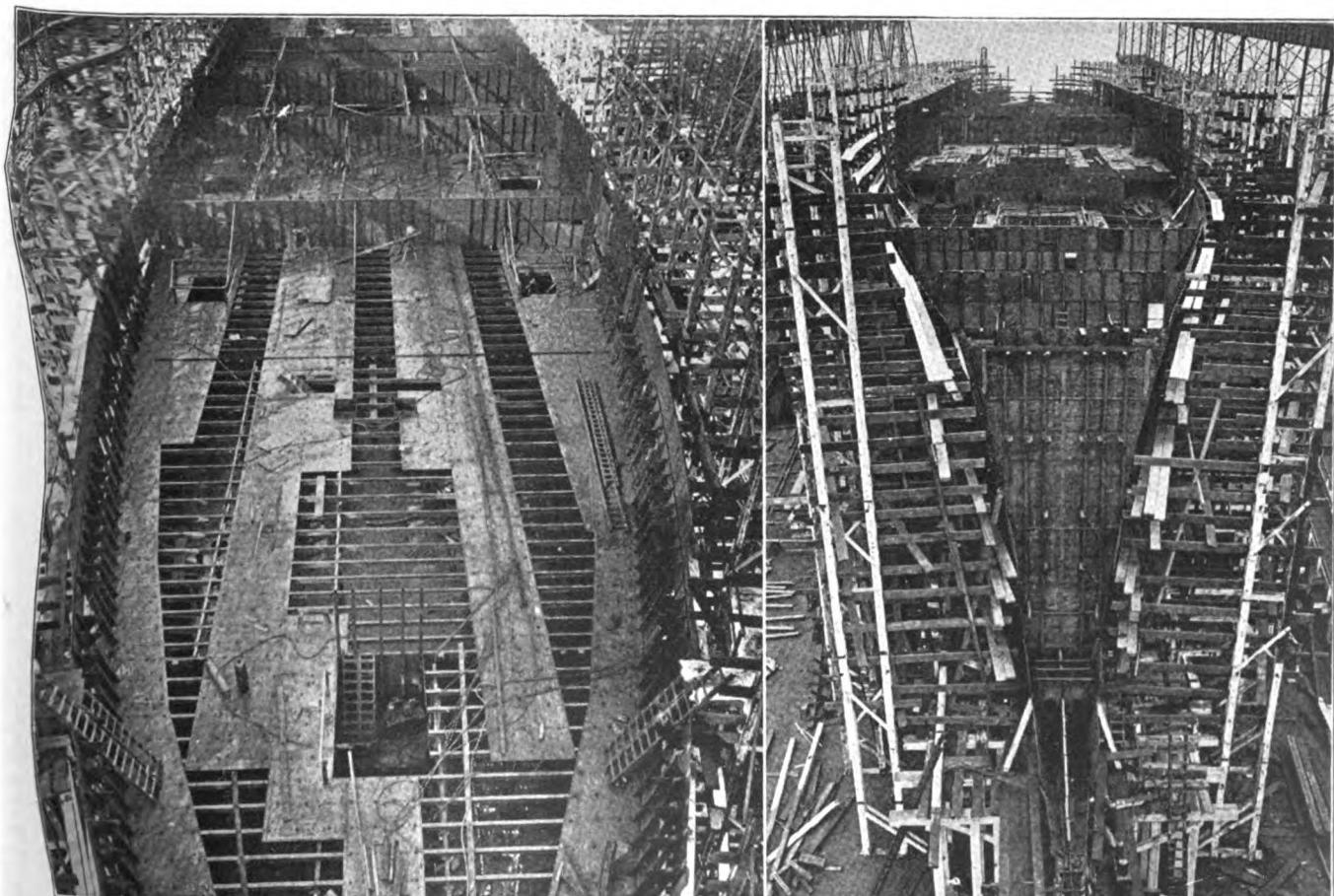
## Keel Laid May 4, 1925

The keel of the MALOLO was laid in Cramp's shipyard, Philadelphia, on May 4 of last year. Ten months later, at the end of January, 13,615,600 pounds of steel had been placed. The plating up to D Deck was almost complete and, from the high derrick

overhead, or from the yard beyond the stem, the beautiful lines of this ship with her massive, imposing beam and slim, keen entrance began to show clearly.

Aft the swift cruiser lines of the stern—so unusual and striking in a passenger steamship but lending emphasis to the facts of her speed are definitely defined. Below the water line the two huge, outboard propeller brackets each weighing 42 tons, are completely plated and the propeller bearings bored out. It is over 200 feet from the starboard propeller bearing to its turbine, and to center these bearings in the boring is a matter of the nicest delicacy. The center was established by a transit and then that record was checked with a piano wire of known tension, under given temperatures, with the ordinates accurately measured and computed.

The MALOLO was designed by Wil-

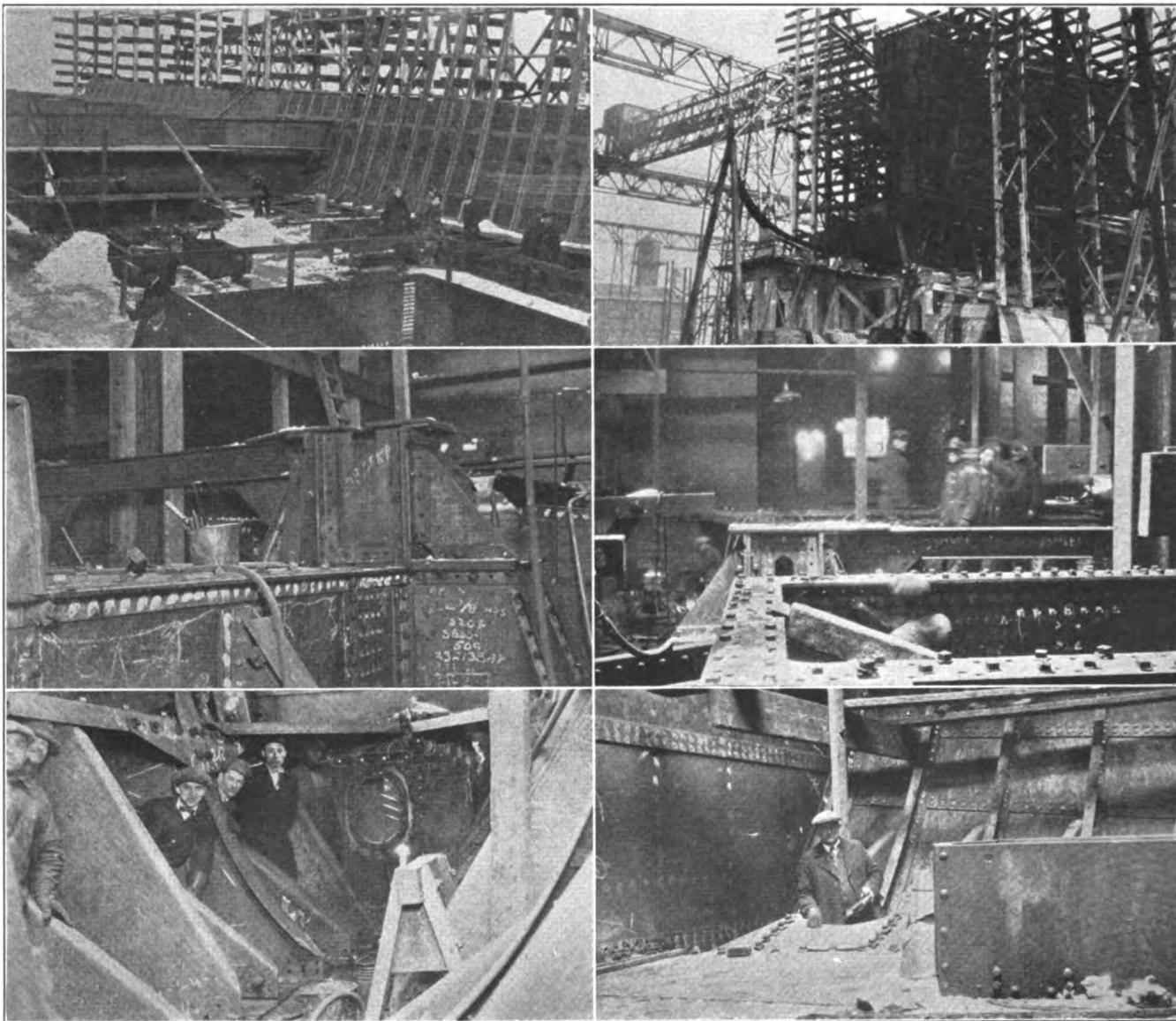


CONSTRUCTION PHOTOGRAPHS OF THE S. S. MALOLO—(LEFT)—VIEW FROM THE STERN LOOKING FORWARD—TAKEN JAN. 9, 1926—(RIGHT)—VIEW FROM THE FORWARD END LOOKING AFT—TAKEN DEC. 31, 1925

liam Francis Gibbs—whose reconstruction of the working plans of the LEVIATHAN, and reconditioning of that vessel after Germany had refused to surrender the plans, was one of the outstanding feats in marine engineering—and is being built under his direction for the Matson Navigation Co., San Francisco, for the run between that port and Honolulu. She

with a molded beam of 83 feet. She will draw 28 feet, 6 inches with 22,050 tons displacement. Her speed of 22 knots will be given by twin screws, 19 feet in diameter of the built-up type, driven by twin compound turbines of 12,500 horsepower each, or 25,000 horsepower in all. She will have seven decks with passenger service furnished by two bronze elevators.

and a passenger's dark room for amateur photographers. She will carry 693 passengers—all first class and a crew of 269; a total of 962. There will be 20 lifeboats (two of them heavy duty motor boats, each with broadcasting radio apparatus) with a capacity for 1016 people—54 in excess of her list of passengers and crew.



DETAILED CONSTRUCTION VIEWS OF THE S. S. MALOLO—(UPPER LEFT)—LOOKING FORWARD SHOWING LOCATION OF SWIMMING POOL IN THE FOREGROUND—(MIDDLE LEFT)—PORT TURBINE FOUNDATIONS—(LOWER LEFT)—NO. 1 HOLD—(UPPER RIGHT)—FORWARD END WITH PART OF STEM IN PLACE—(MIDDLE RIGHT)—STARBOARD TURBINE FOUNDATIONS—(LOWER RIGHT)—NO. 2 HOLD

is guaranteed a sustained sea speed of 22 knots and will be able to cut four days off the round trip running time between these ports. It is interesting to note that Mr. Gibbs is designing a vessel for the Inter-Island Steam Navigation Co. Ltd. of the Hawaiian Islands for the inter-island run, that will be one of the finest vessels of its type in Pacific waters.

The MALOLO is 582 feet in length,

On F Deck there will be a swimming pool in Pompeian mosaic—the first swimming pool that has ever been built-in in an American built ship. There will be 274 staterooms with 481 beds and 172 berths; a total of 653. There are 107 baths—the largest number of baths ever built into any steamship in the world. There will be two motion picture theatres—one inside and one on deck; two children's playrooms; a soda fountain

There will be a refrigerated cargo space of approximately 25,000 cubic feet, and her general cargo capacity will be in excess of 225,000 cubic feet. Her fuel capacity will be 5000 tons of oil. There will be two boiler rooms with a battery of six Babcock & Wilcox marine type watertube boilers in each, with a working pressure of 280 pounds and fitted for superheat. The oil burners are also

(Continued on Page 42)



One of the first Lundin decked lifeboats to be built. A 26-foot boat undergoing steamboat inspection test with full complement of persons on board

# Use Decked Lifeboat in Rescue

**Captain Fried of the President Roosevelt Used Lundin Decked Lifeboats to Rescue the Crew of the Antinoe**

THE officers and men of the S. S. PRESIDENT ROOSEVELT have received and deserve unstinted praise for their skill, bravery and dogged perseverance in effecting the rescue of the entire complement of the doomed British freighter ANTINOE in mid-Atlantic. For four days, in the severest kind of weather and mountainous seas, from Jan. 24 to 28 the PRESIDENT ROOSEVELT stood by the disabled vessel until the transfer had been successfully accomplished.

All accounts of this modern epic of the seas are unanimous in stating that this feat would have been impossible without the aid of the wireless, the radio compass, and the Lundin decked lifeboats. With reference here particularly to the latter, the New York Sun for Feb. 1, 1926 in an article on the vital part played by modern inventions in this rescue, said in part:

"Without the Lundin lifeboats, an innovation of the last decade. Captain Fried might have been forced to stand powerless on the bridge and watch the freighter go down with all hands.

## Lundin Boat Almost Unsinkable

"The Lundin boat, which is still regarded with suspicion by older seamen, is an all metal, broad, shallow lifeboat, so buoyed up with air compartments as to be almost unsinkable. It cost Captain Fried of the PRESIDENT ROOSEVELT six Lundin boats to save the ANTINOE's crew. He attempted to use none of the other types hanging on the davits. This is an indorsement so sincere and from such an authoritative source that the

Lundin may be accepted universally as the lifeboat for the heaviest seas.

"In rescuing the sailors of the Italian freighter IGNATIUS FLORIO two months ago Captain Grening of the PRESIDENT HARDING also used Lundin boats exclusively.

"Chief Officer Miller, when he arrived in Queenstown, spoke with unrestrained enthusiasm of the Lundin boat, and one of the ROOSEVELT's pas-

so marked an extent that overloading due to confusion or darkness will not endanger the safety of the occupants. Ample fenders of balsa protect it from damage by blows against the ship's side (this was one of the outstanding attributes in the heavy seas during the rescue) and also give added buoyancy and stability.

With its high freeboard, folding wooden top sides and inner self-bailing deck, the comfort and protection of a dry boat are afforded the passengers. There is also greater seating space per persons than is ordinarily possible with the usual type. These boats may be nested compactly under davits and if not launched can be cut loose to float off safely from a sinking ship.

## Construction Gives Strength

The lines of the Lundin decked lifeboat are of the scow type with spoon-shaped bow and stern. It is made of galvanized steel with a well deck above the load waterline. The flat bottom has a 6-inch keel plate riveted through two angle stiffeners. It is further stiffened by longitudinal flanges of the bottom plates at the seams, and a short bilge connects the bottom with the flat sides of the boat. The steel deck is carried out to the sides and raised only at the ends. Along the sides are strapped the fenders of encysted balsa, metal sheeted, removable for painting the sides.

Between the bottom and the deck the boat is divided by transverse bulk-heads into eight water-tight com-

(Continued on Page 44)

**Saving Lives at Sea**  
Proper provision for safeguarding the lives of passengers and crew and for affording efficient aid to other vessels in distress under the severe conditions attending marine disaster demands the installation of life-saving equipment that will render adequate and unfailing service.

sengers, a veteran of many crossings, insisted that no other type of lifeboat could have lived in the waves between the American and the British liners."

Such a remarkable practicable demonstration of service has naturally aroused a special interest in this type of lifeboat and the manner of its construction. The boat is built by the Welin Davit & Boat Corp., 305 Vernon Ave., Long Island City, N. Y. The design, which is approved in every respect as class 1-A, is based on years of study and practical sea-going experience by Capt. A. P. Lundin. It possesses stability, seaworthiness and reserve buoyancy to

# Shipbuilding For 1925

FROM third place for 1924 in the shipbuilding of the world, the United States fell to fourth place in 1925, being passed by Italy, according to statistics just published by Lloyd's *Register of Shipping*. Great Britain and Ireland continue to lead the world for the amount of tonnage constructed, but launched 355,000 gross tons less last year than in 1924, while American tonnages decreased some 10,000 tons. Against this decline, the other maritime countries combined showed a gain of about 310,000 tons, Germany's share of this being over 200,000 tons.

Construction of tank vessels in 1925 was 286,869 tons, more than double that in 1924, although the United States showed a decline. Lloyd's also shows a growth in the use of motor ships, the increase being most pronounced in Germany where a tonnage of 279,410 was launched, as against 96,141 in 1924. Italy's figure was 101,479 gross tons, Denmark 69,607 and Sweden 46,102. These four countries alone launched in 1925 a total

of 496,598 tons as against 499,072 for the entire world in 1924. Of the entire German and Italian tonnage for 1925, 70 per cent was of vessels to be equipped with internal combustion engines, while 90 per cent of the Swedish and Danish vessels were to be so equipped.

Gross ship construction during the past year was over a million tons below the total figure for the last pre-war year, and nearly 5,000,000 tons below the peak year of 1919. The following table compares launchings:

	1925	1924
Great Britain and Ireland	1,084,633	1,439,885
Germany	406,374	193,952
Italy	142,046	82,526
United States	128,776	139,463
Holland	78,823	63,627
France	75,569	79,685
Denmark	73,268	63,987
Japan	55,784	72,757
Sweden	53,750	31,211
Other countries	94,381	80,708

## Cost of Welland Canal

The estimated cost of this canal will be \$115,000,000, not \$75,000,000 as given in February MARINE REVIEW.

## From the Editors Mail

The following letter received from Major Putnam, makes it clear that the item published on page 28 of the February number of MARINE REVIEW, concerning the abandonment of the Chicago river for navigation, was both premature and incorrect.

\* \* \*

To the Editor:

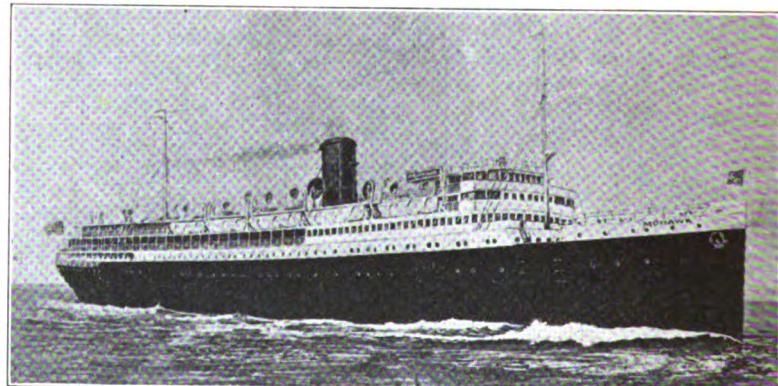
In the February issue of the MARINE REVIEW appears a statement to the effect that the district engineer at Chicago is recommending the construction of fixed bridges across Chicago river and the abandonment of the river as a navigable stream in a report which is being submitted to the war department at Washington.

It appears to me that this is rather a positive statement in view of the fact that the report has not been made and that a public hearing on the subject has been arranged for Feb. 13. This news item must be based on erroneous information, as I have not indicated what recommendations I propose to make, nor could I if I desired to do so in view of the fact that the studies are as yet incomplete.

Rufus W. Putnam,  
Feb. 4, 1926. District Engineer.  
Major Corps of Engineers

# New Liner Mohawk Sails on Maiden Voyage

THE S. S. Mohawk, third of the new Clyde sister ships built at Newport News Shipbuilding & Drydock Co. for service between New York, Carolina and Florida ports, sailed on her maiden voyage from New York to Charleston, S. C., and Jacksonville, Fla., on Feb. 9.—The Mohawk is identical with the Cherokee and Seminole, now in service, and she was launched Oct. 21, 1925, and completed Jan. 28, 1926. An outlay in excess of \$6,000,000 has been made for these three vessels. A fourth vessel of similar type will be followed by two 20-knot ships especially designed for the New York-Miami service.



## Dollar's Bid Refused

T. V. O'Connor, chairman of the United States shipping board, announced that the board has considered the bid of the Dollar Line for the sale of the American Oriental Mail line and decided that the sale should not be consummated at this time, but

that the Emergency Fleet Corp. was instructed to continue negotiations which would be in conformity to the recent advertisement for the sale of this line. Negotiations will be reopened with the Dollar Line or any other interested purchaser and the matter will be referred back to the board for its attention.

## Tanker Traffic Heavy

Tanker shipping through the Panama canal during December was greater than any previous month since September, 1924, according to a report received by the war department from the canal zone. Ninety-six tank ships transited the canal during the

month, with an aggregate net tonnage of 564,743, on which tolls of \$509,359 were paid.

In point of net tonnage tanker traffic for the last month showed an increase of approximately 21 per cent over the similar traffic for the corresponding month a year ago, while cargo tonnage showed an increase of

approximately 9 per cent over the cargo tonnage for November, 1924.

Tank ships comprised 20.8 per cent of the total commercial transits of the canal during the month. Of the 96 tankers, 73 were United States flag tonnage, 19 were British, and the four remaining were under Belgian, Danzig, French and Norwegian registry.

## Take Over Sales Agency

The Marine Decking and Supply Co., Philadelphia, has recently taken over the sales agency for Thorkote products in the Delaware river territory. Thorkote is a water-proof airtight covering for deck lines, boiler, feed and oil heaters, brine tanks and any equipment requiring protection.

# Maintain Best Traditions of the Sea

**U**NUSUALLY severe weather during the latter part of January and early in February caused disaster to at least four freighters and gallant and successful rescues by ships that stood by. The lost vessels were the British freighters, LARISTON and ANTINOE, the Dutch freighter ALKAID and the Norwegian motorship PINTO.

Sixteen of the members of the crew of the LARISTON were rescued under extremely difficult conditions by heroic efforts on the part of the officers and crew of the North German Lloyd liner BREMEN. The remainder of the crew of the LARISTON went down with their ship.

All of the crew (27 men) of the ALKAID, disabled in a terrific storm-1000 miles off Cape Race Feb. 1., were taken off by the Hamburg-American line steamer WESTPHALIA under direction of Capt. Carl Graalfs. The shipping board steamer CASPER commanded by Capt. Harold Bill on Feb. 9 sighted the disabled Norwegian Motorship PINTO 150 miles southwest of Norway, without radio communication for assistance, the crew having given up all hope of rescue. The entire crew of the PINTO were safely transferred to the CASPER. After repeated unsuccessful attempts to take the PINTO in tow she was finally abandoned.

The rescue of the entire crew of 25 men of the British freighter ANTINOE by the passenger liner S. S. PRESIDENT ROOSEVELT commanded by Capt. George Fried stands out as one of the finest in the annals of the sea. For three and a half days from Jan. 24 to 28, the ROOSEVELT stood by the ANTINOE and finally, after losing two of her own men, Master-at-Arms Uno Witanen and Boatswain's Mate Ernest Heitman, and six of her life boats, the transfer was made with Chief Officer Miller in charge. Never before in the history of rescues at sea has the dogged persistence and courage of Captain Fried, his officers and men been excelled, and never before has the warmth of welcome been greater than that accorded the PRESIDENT ROOSEVELT when she docked at

Plymouth, England with the survivors of the ANTINOE on board. King George V sent a personal representative to thank the American officers and a cablegram to President Coolidge praising them.

Perhaps after all the best account of this stirring rescue is the brief account wirelessed by Captain Fried to the United States Lines:

### The Captain's Wireless Account

"Five forty a. m., yours twenty-fourth received S O S from steamship ANTINOE, proceeded to position

ed, No. 3 hatch broken, heavily listed starboard.

"Weather moderated. Attempted to send manned life boats, Chief Officer Miller in charge. When lowered life boat vicious hail squall hit us. Sea proved too rough for life boat. Men spilled out of boat but managed to get back in boat. Covered with fuel oil, seemed exhausted. Ordered men aboard assisted by life line. All recovered except Witanen master at arms; Heitman, boatswain's mate. Weather increasing.

"Twenty-sixth: Continued station, distributing oil weather side, ANTINOE showing one oil lamp.

"Her distress signal indicated perilous situation. Attempted float boat to her by aid Lyle gun. Got boat to her, but she lost it. Tried floating cask, failed.

"Twenty-seventh: Kept station; attempted float boat to her, failed. Fired Lyle gun again and rockets. Got line to her. When they hauled in line cut on their rail. Lost boat. Fired Lyle gun sixteen times.

"Suggestion Col Hearn, artillery expert, passenger, use spiral spring between projectile and line successful. Chief Engineer Turner made thirteen projectiles. Weather now moderating, occasional snow squalls. Seven twenty p. m. lowered manned life boat successfully took off twelve men. Boat badly damaged.

"Midnight: Weather greatly improved and aided by moonlight took remainder of crew aboard.

"Captain Tose had to be carried aboard and despite his physical condition asked to be carried to bridge to express gratitude. All crew pitiful condition. No food nor water two days. Little clothing. Exposure. Minor injuries.

"One thirty-five a. m. proceeded on our way. ANTINOE still floating. Both well decks awash, 50 degrees starboard list. Stood by her three and a half days.

"Our own crew are most exhausted from long vigil. Some passengers and crew sustained minor injuries from heavy rolling."



CAPT. GEORGE FRIED  
Commander of the S. S. PRESIDENT ROOSEVELT

by radio compass bearings, which proved position one hundred miles in error. Alongside her noon, wind west, force ten, with violent snow squalls. High rough seas were rolling thirty-five degrees. Took position quarter mile windward. Pumped oil overboard with excellent effect. Her captain claims this saved them from sinking.

"Lost sight of her 9 p. m. Her radio and dynamo out of commission. Severe snow squalls. Picked her up again 3:40 p. m. twenty-fifth, with engine and fire room flood-

# Shallow Water Reduces Cargoes

Lake Carriers' Report for 1925 Shows Large Tonnage—  
Freight Rates Same as in 1924—Expect Good Season in 1926.

A READING of the annual report of the operations of the Lake Carriers' association during the year 1925 will give a full and comprehensive understanding of the bulk freight movement on the Great Lakes as well as interesting facts concerning new ships added, lake levels, aids to navigation, freight rates, personnel and allied matter. The formal report as customary is printed and bound in book form and consists of 218 pages with 35 illustrations and will be presented to the Lake Carriers' association, for the board of directors, executive committee and officers, by the president J. S. Ashley, at the annual meeting of the association in Cleveland on April 15 next.

The report is quoted in part as follows:

"The season of 1925 goes into lake history as marking a year of large tonnage movement but with a revenue not commensurate with the costs of operation. With no diminution in operating charges, but a reduction in cargo capacity without increase in freight rates gratifying results could not obtain. The season's official returns show that the vessels averaged 419 less tons of iron ore and 342 less tons of coal per cargo than in 1924 and sustained a loss correspondingly large in cargoes of grain. Further contributory to vessel expense were the widespread delays due to shallow water at controlling points as a direct result of low water levels.

"As there has been a consistent recession in recommended loading drafts year after year the economic loss to the vessel owner by reason of the declination from the 21 feet of five years ago to the present draft of 18 feet 6 inches is so enormous that the cost amounts to millions of tons of freight in a single season.

"Notwithstanding that something like 50 small and medium-sized bulk freighters were not required in the season's movement of ore, thus leaving the trade more largely to the vessels of great capacity, the average cargo for full loads dropped to 7,870½ gross tons. This is the lowest average known since 1916. It prevails in the face of the fact that the ore carrying fleet has been heavily strengthened by the addition of hundreds of thousands of tons of new carrying capacity and simultaneously has been relieved of thousands of tons of smaller ships.

"Since 1916 members of this association have brought into the ore fleet three steamers each 545 feet long and 28 steamers from 600 to 618 feet long which, on the recommended draft of 1916, have combined capacity to move 386,000 gross tons, or an average of 12,450 tons per trip. In spite of this marked strengthening of capacity the ore carrying fleet has failed to hold its average load against lowering water levels. Any feasible adjustment of existing conditions to overcome the vessel cargo loss would, in combination with the potency that characterized the last quarter of the iron and steel industries, lend vision of a more hopeful future. In any event it is comforting to observe that in well informed circles the opinion was strengthened as the year ended that 1926 would be one of the most active and prosperous years in a long time.

"In 1925 combined lake shipments of iron ore, coal, grain and stone amounted to 113,291,886 net tons and with the exception of 1923 when ore and coal moved in larger volume, was the largest of any season since the close of the war. This vast amount of freight was handled without the full strength of the fleet having been employed and without evidence of pressure having been exerted. It being generally recognized that the vessels of the Great Lakes provide transportation of the three fundamental commodities of national existence, namely, ore, coal and grain, at the lowest cost, the potentialities of the fleet if called upon to meet an emergency is shown to be more formidable than ever before.

## Iron Ore Trade Large

"Shipments of iron ore totaled 54,081,298 gross tons, equal to 60,517,054 net tons. Immediately preceding the opening of navigation price reductions in Lake Superior iron ores ensued under a different system of determining differential prices between bessemer and nonbessemer grades and by which prices were, respectively, from 50 cents to 71 cents a ton lower than in 1924. This had a deterring effect on lake freight rates which, remaining the same as in 1924, were on the basis of 70 cents a ton from the head of Lake Superior, and thus for the first time an ore movement of large volume occurred without having

carried with it an upward trend in carrying charges.

"Shipments of soft coal having totaled 26,330,843 net tons the movement was above the average. It was greatly accelerated after Sept. 1 by reason of the strike in the hard coal fields, and although shipments of anthracite ceased altogether the increased tonnage did not bring forward any wild rates on soft coal which, common in years past, ranged from 70 cents to \$1 a ton. But as with ore, the season rates on coal were similar to 1924. The entire tonnage was moved on the basis of 40 cents a ton to the principal ports on Lake Superior and represented a reduction of 5 cents a ton from the last preceding year of large tonnage movement. Shipments of hard coal totaled only 1,717,695 net tons of which 1,475,540 tons went forward from Buffalo and 242,155 tons were shipped from Erie.

"Total lake shipments of wheat, oats, corn, rye, barley and flaxseed amounted to 489,412,245 bushels. The decline from the record-breaking shipments of 1924 was entirely due to diminished shipments of grain from ports in the United States and for which there was no export market. Whereas American grain shipments fell off 87,200,000 bushels from the movement of 1924, Canadian shipments increased by almost 33,000,000 bushels. With regard to the annals of lake grain history it is interesting to note that it was only four years ago that the first 500,000,000-bushel movement took place. We now have for record the first 300,000,000-bushel movement by a single country, the Canadian shipments in 1925 having totaled 305,422,574 bushels, equal to 8,439,362 net tons.

"For the first time since stone entered the field of bulk freight commodities, total shipments exceeded 10,000,000 tons. The exact amount moved by the vessels was 10,135,221 gross tons, 11,351,948 net tons. The previous record was 8,857,520 gross tons as shipped in 1923." A table showing total lake shipments in 1925 of each commodity carried by the fleet of bulk freighters with comparative data for ten preceding years was published in February MARINE REVIEW, page 48.

"It is with the most profound sor  
(Continued on Page 54)

# A Leader Needed in Congress for the Merchant Marine

BY FRED B. PLETCHER  
*Washington Representative, Marine Review*

WITH the start of hearings on shipping legislation scheduled for early in March before the house committee on merchant marine and fisheries, and early hearings in prospect before the senate commerce committee, it appears that the shipping problems finally have reached a stage of more than passing interest to congress.

It is considered doubtful whether the public is sufficiently posted on shipping questions to forego insistence upon matters of port preferences and sectional matters. This attitude of mind will find its reflection in congress. About the only thing that stands out as probable of accomplishment in congress in shipping matters is the separation of the shipping board and Emergency Fleet Corp., or probably the removal of the administration of government shipping from the board to jurisdiction of some other department or cabinet committee.

The house on Feb. 18 began its general debate on the independent offices appropriation bill, which carries an appropriation of \$14,198,574 for the shipping board for the fiscal year. The board had asked the bureau of the budget to grant \$22,000,000, but Admiral Palmer, when head of the Fleet corporation, stated that the board probably could get along with \$18,000,000, the latter figure having been based upon the board being relieved of certain services through purchase.

In connection with the opening of debate on the bill, Representative Sandlin, of Louisiana, laid before the house a letter from E. A. Emerson, vice president and managing director of the Armco International Corp., Middletown, O., urging an adequate appropriation for the shipping board, and also a letter from the Middle West foreign trade committee, at Cincinnati, which urged that the board should not be forced to sacrifice lines to purchasers who cannot maintain them, and asking that the board at any time be enabled to take back and operate lines that cannot be maintained privately.

Chairman O'Connor and Commissioners Hill and Walsh, of the shipping board, have been conferring with the

non-conference shipping lines in New York in an effort to bring them into the Intercoastal conference. A committee has been named to further take up this question, the committee consisting of George T. Williams, president of the Williams Steamship Co.; Henry R. Sutphen, vice president of the Transmarine Corp.; C. H. Callaghan, president of the Callaghan, Atkinson & Co.; and W. M. Campion, vice president of the Garland Steamship Corp. It was intimated that the Transmarine lines, now independent, would not consider membership in the rate conference unless granted a rate differential, because of the terminal facilities they control at Port Newark.

In these discussions criticisms were directed again at the shipping board concerning what was regarded as sales of shipping board vessels at prices too low, considering the competition these sales bring about, particularly in east bound trade. It was pointed out that some of the established companies of the shipping trade paid eight and nine times the prices obtained recently for shipping board vessels when ships were bought several years ago in a more active shipping period.

## O'Connor Asks for Co-operation

Chairman O'Connor has launched an ambitious campaign to get more business for merchant marine tonnage, and in a pamphlet just issued by the board he urges business interests to get behind the movement. He points out that in 1923 foreign ships carried 60 per cent more high priced exports from the United States than American flag ships and twice as much imports as the American lines. In 1924, foreign ships carried 70 per cent more high priced imports than our ships, and 60 per cent more high priced exports.

Chairman O'Connor frankly states that at present the American flag ships are decidedly in the retreat, and that this is due to subtle foreign competition that would not dare manifest itself openly. The improved port facilities of the United States, he says, should be used by American ships. With the United States as a regulatory factor, the shipping industry need fear no excessive freight

rates, Chairman O'Connor declares. He adds that every important industry is protected in some way except the merchant marine, which has no subsidy, direct or indirect, and no tariff protection.

The shipping board stirred up a row with the suggestion to congress that \$15,000,000 of the board's construction loan fund be used as a protective fund against rate wars. Strong opposition to this procedure for a \$15,000,000 war chest was voiced in a resolution adopted in New York by the American Steamship Owners association. Chairman O'Connor discussed his plan with President Coolidge, and it is reported that the White House has been inclined to favor it, although the President has not expressed himself definitely upon the proposal.

It is stated that the steamship owners feel that nothing should be done to deplete the present ship construction fund, which was created to enable shipowners to borrow money at a low rate of interest for construction of American ships.

C. J. Jefferson, head of the fuel conservation section of the Fleet corporation, told members of the New Jersey Marine club recently that the board had saved at a rate of \$2,500,000 yearly in its fuel requirements through the fuel conservation committee's technical studies of fuel bills, resistance and horsepower, and the system of paying \$50 bonuses every six months to captains and engineers of ships in the banner class. Formerly, he said, 27 cents of every dollar of operating costs went for fuel, and now this has been reduced to 22 cents. He said not more than \$10,000 has been spent to save this fuel.

Representative Colt, of Utah, has before the house merchant marine committee his bill to provide for the operation and disposition of the merchant vessels of the Emergency Fleet Corp. Senator King, of Utah, has his bill before the senate commerce committee to abolish the shipping board and Emergency Fleet Corp. and to create a shipping commission of three members appointed by the President for overlapping terms at salaries of \$10,000 each.

# From the Old Log Book

Stray Items About the Great Lakes, Atlantic, Pacific and Gulf Coasts and Inland Rivers from MARINE REVIEW Files of 10, 20, 30 and 42 Years Ago

## MARCH 1884

A LIVERPOOL steamer reaching Boston 42 years ago, according to the *Marine Record* (then the name of the MARINE REVIEW and a weekly) reported running for 110 miles along a solid wall of ice.

That a great section of the ice in the Polar regions became detached in an immense cake and floated south in a continuous mass, would seem to be the only literal explanation. It is almost impossible to conceive of such a condition and it may be that the story was a hoax.

We are told that Lieutenant Harber who brought from Siberia the remains of the JEANETTE victims, attended a banquet and ball at Youngstown, O., his native town.

The population of Aspinwall, Panama, grew from 1200 or 2000 to 8000 or 10,000 after the commencement of work on the canal. The account goes on to say that buildings extended into swamps where there were no streets graded.

This was in the days of De Lesseps and the attempt of the French to build the Panama canal. The significant remark above, that buildings extended into swamps where there were no streets graded, speaks volumes for the cause of the failure of the French to carry through this work, as plague and sickness due to unsanitary conditions could not be overcome. It was the splendid health and sanitation work planned and carried out by Americans which made the digging of the canal possible.

## MARCH 1896

AS LONG ago as 1896 it was noted that the net registered tonnage of vessels passing through the Suez canal during the whole of the calendar year of 1895 was barely one half the tonnage of vessels passing through the two canals at St. Mary's Falls during 231 days of navigation on Lake Superior in the same year. 17,956

vessels of 16,806,781 net registered tons passed through the canals at St. Mary's Falls during the 231 days of navigation while 3434 vessels of 8,448,383 net registered tons passed through the Suez canal during the entire year.

This is interesting; but consider the growth of commerce on the lakes since those days. Now, this traffic exceeds by three and one half times the traffic through the Panama canal and more than four times the traffic through the Suez canal. The tremendous importance of the Great Lakes as a transportation system may be realized from these figures. It is therefore of the greatest concern to all that the depths of the Great Lakes be maintained.

An interesting item in MARINE REVIEW for March 6, 1896 stated that the B. F. Sturtevant Co. of Boston, had furnished some 50 or more blowers for draft apparatus on lake steamers. The article went on to say that some 75,000 blowers of all kinds were turned out of the Jamaica Plains Works each year and that the foreign trade required a large number.

The B. F. Sturtevant Co. continues to be well and favorably known for its blowers and equipment of various kinds for ships.

## MARCH 1906

THE MARINE REVIEW 20 years ago recalls an incident which shows the difficulty for American ships to engage in the foreign trade of the United States with profit. It was noted that the steamers MINNETONKA and MINNEWASKA which were built in 1901 and 1902 by the American Shipbuilding Co. for salt water service, were then, that is, 1906, at the Newport News Shipbuilding & Dry Dock Co. undergoing conversion into oil tankers. These steamers exceeded Canadian canal dimensions and were built in sections and towed through the canals and put together at Quebec. A syndicate of lake men who believed that there was an opening for foreign trade in the United States were responsible for the building of

these ships. They discovered later, the account goes on to say, to their sorrow, that no such opening existed. The MINNETONKA and MINNEWASKA were 443 feet 6 inches in length overall and 43 feet 7½ inches in beam and 33 feet in molded depth.

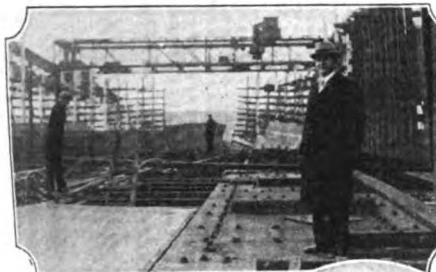
Interesting pictures of the ravages of the storm of November 1905 were given in Marine Review for March 8, 1906. The LaFayette is shown on the rocks and broken in two. The Manila and the Matafe are also shown in wrecked condition.

## MARCH 1916

IN MARCH 1916 the MARINE REVIEW pointed out that the Lake Carriers' association put itself on record as intending to obey to the letter the seamen's law then recently put into effect. What is still more to the point, during the months that passed after its becoming a law, it was actually so obeyed. The Lake Carriers said and meant that the provisions would be enforced to the letter regardless of any inconvenience or expense such action might cause. In the main, since this time, the seamen's law has become an accepted fact and without a great deal of criticism by American steamship operators all over. There are certain provisions of the law which seem to impose an unnecessary burden on the operators; such for instance, as the paying off at too frequent intervals. This does not do the men any good and does inconvenience the operator.

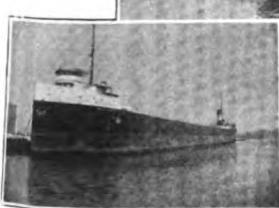
As an indication of how far we have progressed along the line of internal combustion engines it is interesting to note an item in MARINE REVIEW 10 years ago. A photograph is shown of an 8-cylinder 600-horsepower engine weighing 113,000 pounds, built by the Union Gas Co., San Francisco, for the passenger and train ferry RAMON. The engine it is said was 45 feet long and it was coupled to the propeller at each end of the ship through friction clutches. It was stated at the time that this was the biggest marine gasoline engine that had ever been made.

# Latest Marine News in Pictures



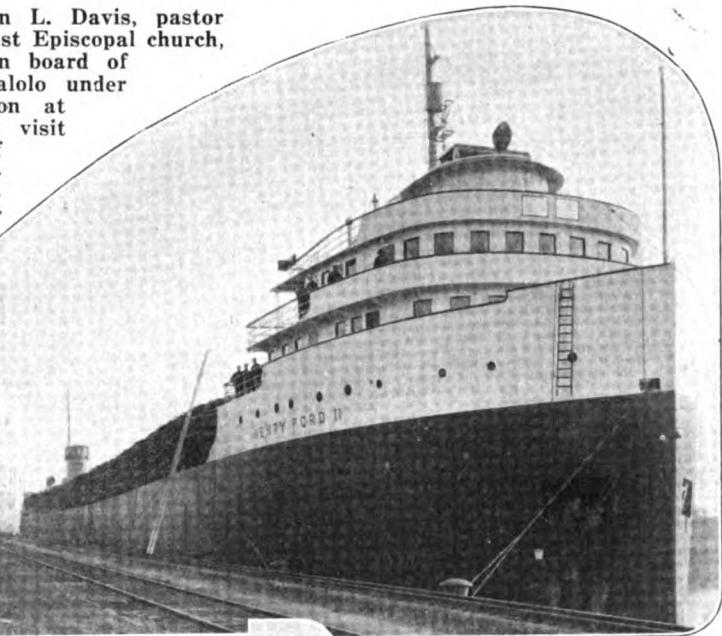
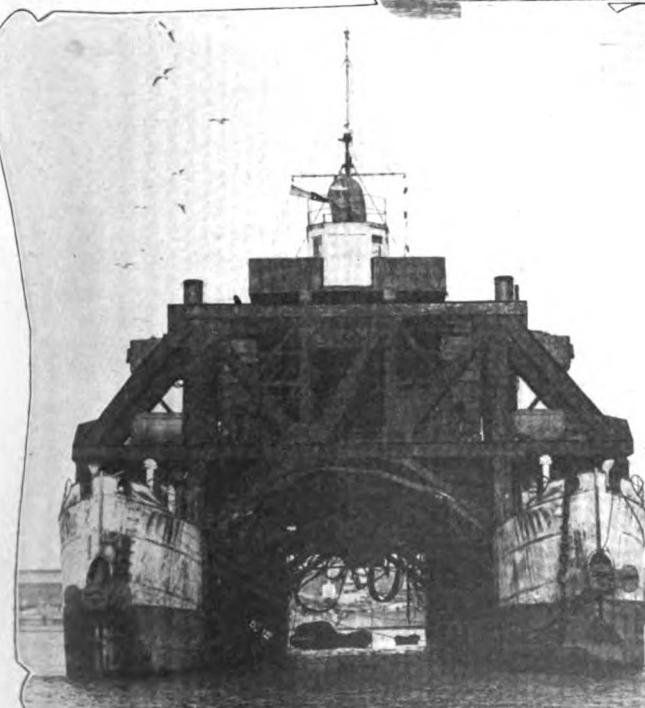
Rev. Dr. John L. Davis, pastor Grace Methodist Episcopal church, New York, on board of the S. S. Malolo under construction at Cramps. This visit on the part of Dr. Davis, inspired the following Sunday sermon.

The barque E. J. Morse at San Pedro, Cal. Said to have been 100 years in service. Once a famous sailer, she is now laid up.

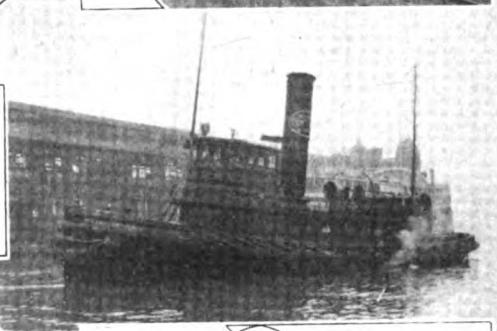


Thomas Barlum laid up part of last season.

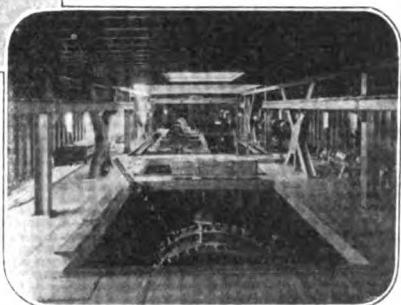
New York Central railroad tug number 18 uses a wireless receiving and sending telephone to ask for and to receive instructions from the operating division ashore. It is likely that this system of tug despatch will become widely used in the future.



Motorship Henry Ford, at River Rouge with a cargo of 5,055,365 board feet of lumber from the Ford mills in northern Michigan, at the end of her first season of operation. The vessel afforded storage for this immense quantity of lumber until it was unloaded as needed.



View 'tween decks during construction of the diesel electric dredge Clackamas, built at Portland, Ore. Now in service.



The tremendous power of high seas is shown by this smashed-in lifeboat on the Cunarder Berengaria. This accident happened when she was westward bound early in January.



A powerful submarine raiser. May be called in to assist in the efforts to raise the British submarine M-1. It will be seen that this craft consists of two hulls with heavy bridgework between. Submarines are raised between the two hulls.

# Dock Management Progress Section

How Successful Dock Operators Have Met  
Problems of Giving Best Service to Ships



General View of Piers 1, 3 and 5, Port of Manila, P. I.

## Ships Get Quick Despatch at Manila

BY LAWRENCE BENTON  
*Comptroller, Manila Harbor Board*

MUCH interest in marine shipping and commercial circles in the United States and elsewhere has recently been aroused by the truly remarkable advancement which has been made at the Port of Manila during the short period of American sovereignty in providing adequate and up to date harbor and port facilities and in the tremendous growth of foreign shipping and commerce. Particular interest is centered in the port's newest ocean terminal (Pier No. 7) and in the very successful operation of the port facilities under the supervision and control of the Manila harbor board, recently created.

Manila is the capital, shipping and trade center of the Philippine Islands. For many centuries, the port of Manila has served as the principal ocean gateway to the important commerce of these islands. But it was not until the beginning of the present century that any successful effort was made to provide the port with a protected harbor and ocean berthing facilities. The Spanish government had formulated plans for a breakwater wall to extend from the mouth of the Pasig river into Manila bay to form a harbor for the protection of vessels during the heavy monsoons, and actual construction of the wall had begun. After the signing of the Treaty of Paris, ceding the Philippine Islands to the United States, the newly created Philippine government began immedi-

ately to lay extensive plans for port improvement. By appropriations from general funds of the government and by sale of bonds, intensive port improvement has been accomplished and the port is now provided with a well-protected deep water harbor and adequate piers for the accommodation of ocean shipping.

### Foreign Trade Shows Growth

The growth of the foreign trade of the Philippines from 1899, the year of American occupation, up to and including 1924 is graphically shown in Table I taken from the 1925 year book of the Port of Manila. Tables II and III respectively, show the number of ships and their nationality entered and cleared in the foreign trade for 1924, 1914 and the three preceding years; and the value of the imports and exports for the year 1924 and their origin by nationality for the principal countries engaged in the trade.

It will be noted by reference to these tables that though over 65 per cent of the total imports and exports for 1924 was due to trade with United States, only 22.6 per cent of the number of vessels cleared and entered in the foreign trade of the Philippines was American. While the total trade in imports and exports of the United Kingdom was but 6.17 per cent of the total foreign trade of the islands, yet 37.6 per cent of the number of ships entered and cleared was British. Japan

was directly responsible for only 6.08 per cent of the total foreign trade, yet nearly 14 per cent of the number of vessels entered and cleared in the foreign trade was Japanese. Germany accounted for 1.96 per cent of the total trade but her shipping amounted in numbers, to 5.2 per cent, according to Table II, and furthermore, is showing a rapid comeback to the position of prominence it held in 1912-13.

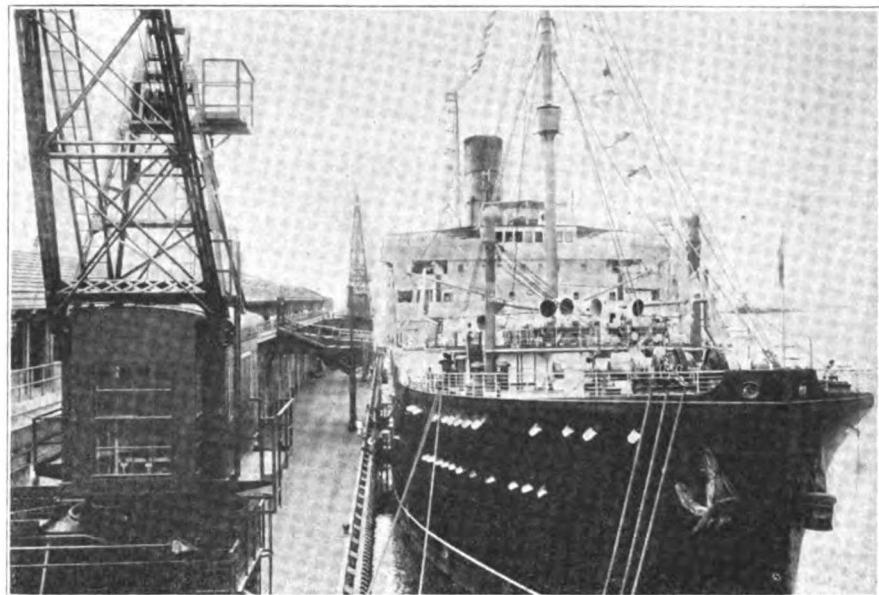
There is one outstanding and encouraging fact however. In 1911 only 14 American vessels entered and a like number cleared in the foreign trade of the Philippines while in 1924 no less than 250 American vessels entered and 216 cleared. There has been a consistent and steady increase in the number of American ships entered. This figure for 1924 had not previously been equalled. In clearances also there has been a steady increase in American ships and the figure for 1924 was previously exceeded only once and that was in 1920, the year of inflation.

This story, however, is not concerned primarily with the commerce of the Philippines but rather with a more detailed account of the facilities of and management of the Port of Manila and particularly, with a description of the fine new ocean terminal, pier No. 7 now nearly completed.

With the exception of pier No. 1, which was constructed by the United States government for the accommodation of its army and navy vessels, all

of the port facilities are owned and controlled by the Philippine government and were constructed by or under the supervision of the bureau of public works. These latter consist of three piers (Nos. 3, 5 and 7) and one wharf having a combined berthing capacity of nine large vessels. Each of the piers are equipped with interior overhead electric travelling cranes, heavy lift cranes, electric floor tractors, trucks, trailers and the usual hand equipment.

The Philippine government piers and wharf are under the direct administrative control of the Manila harbor board, a body created by the Philippine legislature, the members of which are appointed by the governor-general and serve without compensation. The board maintains a paid administrative and office personnel. The board is invested by law with the duties of general supervision and regulation of and control over the receiving, handling, custody and delivery of all cargoes and merchandise passing over the piers and wharf, and of the establishing of fixed rates of charge for the service. The board is authorized to contract with a private entity for the performance of the labor of receiving, handling, custody and delivery of merchandise, said entity to operate the port facilities under the direct supervision and control of the board. The port facilities are now being operated under a limited contract of the board with the Manila Terminal Co., this company has attained remarkable success during the past three years and has rendered entire satisfaction to the board, operators of vessels, shippers and all concerned. Under this system of operation, a remarkable record has been made at the port of Manila for rapid despatch of vessels, careful han-



S. S. FRANCONIA ROUND-THE-WORLD TOURIST VESSEL AT PIER NO. 7, MANILA, P. I.—NOTE ELECTRIC GANTRY CRANES AND PASSENGERS' GANGWAY CONNECTING UPPER DECK OF SHIP TO BALCONY OF PASSENGERS' PASSAGEWAY ON THE PIER

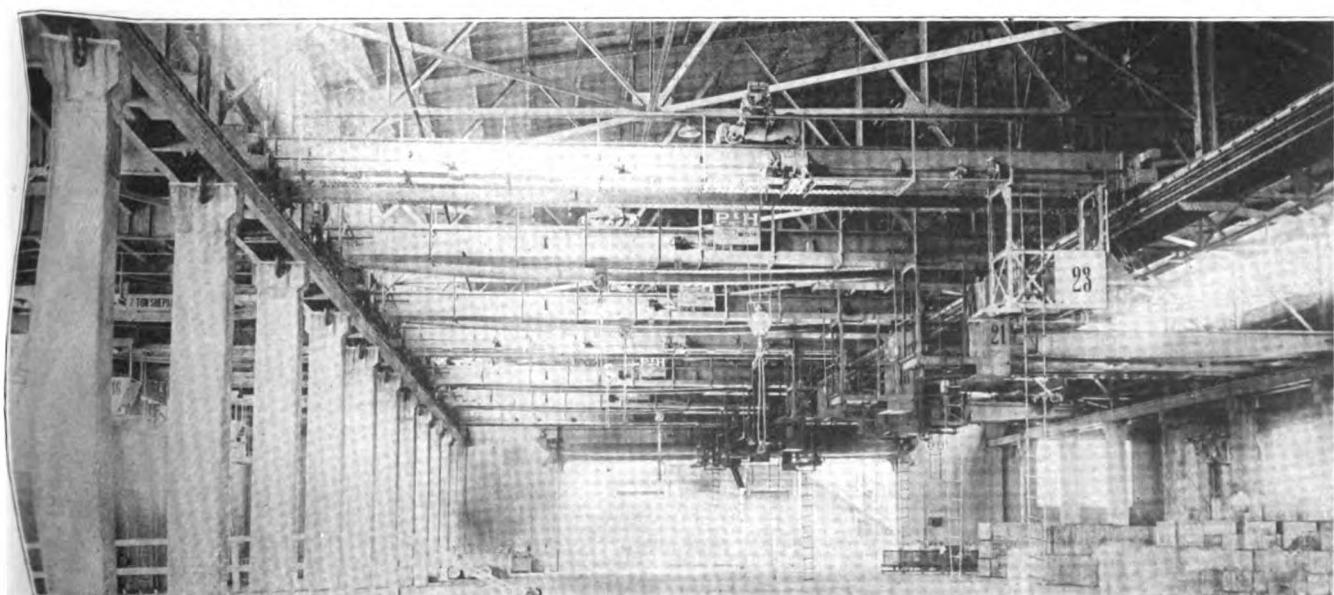
dling and prompt delivery of merchandise, economy to vessels and shippers, freedom from labor troubles and guarantees against losses from theft.

#### Cargo Handled Quickly

As particular interest may be presupposed by the readers of MARINE REVIEW in the port's newest ocean terminal, pier No. 7, description of its construction and equipment will be given in detail. This pier is now nearing completion. The shore half (except the pier head) was completed, equipped and commissioned in July, 1924. Continuation of the construction work has not interfered with the berthing of vessels or handling of cargoes thereat. This pier is constructed of reinforced concrete throughout. It is 240 feet wide

and will be, when completed, 1400 feet long and will accommodate four of the largest vessels on the Pacific. Some idea of the heavy constructional work involved may be gained from the following. The pier is supported by about 2700 reinforced concrete piles, each 24 inches square and from 80 to 150 feet long (including pile caps). The original piles were cast from 80 to 110 feet in length, the latter being the maximum length convenient for handling and driving. About one third of the piles driven at the sea end had to be lengthened by extension pile caps of from 20 to 40 feet in length. The 110-foot piles were first driven to bearing to support a load of 110 tons, after which, the pile

(Continued on Page 48)



INTERIOR VIEW OF PIER NO. 7, SHOWING THE SYSTEM OF ELECTRIC HOISTING CRANES OF WHICH THERE ARE FORTY-EIGHT

## Reviews of Late Books

*Marine Labor Union Leadership*, by Walter J. Petersen, paper, one volume, 56 pages, 5½ x 8 inches, prepared under the direction of the Pacific American Steamship association, the Ship-owner's Association of the Pacific Coast and the Waterfront Employers' union, by the general manager of the marine service bureau of the state of California. Copies issued free on request to above at 336 Battery street, San Francisco.

This book according to the author is intended to present a truthful statement of conditions affecting marine employment generally and to counteract misleading statements made by interested persons concerning the operation of ships of the American merchant marine. The author has had years of experience in marine employment and asserts that he has tried in

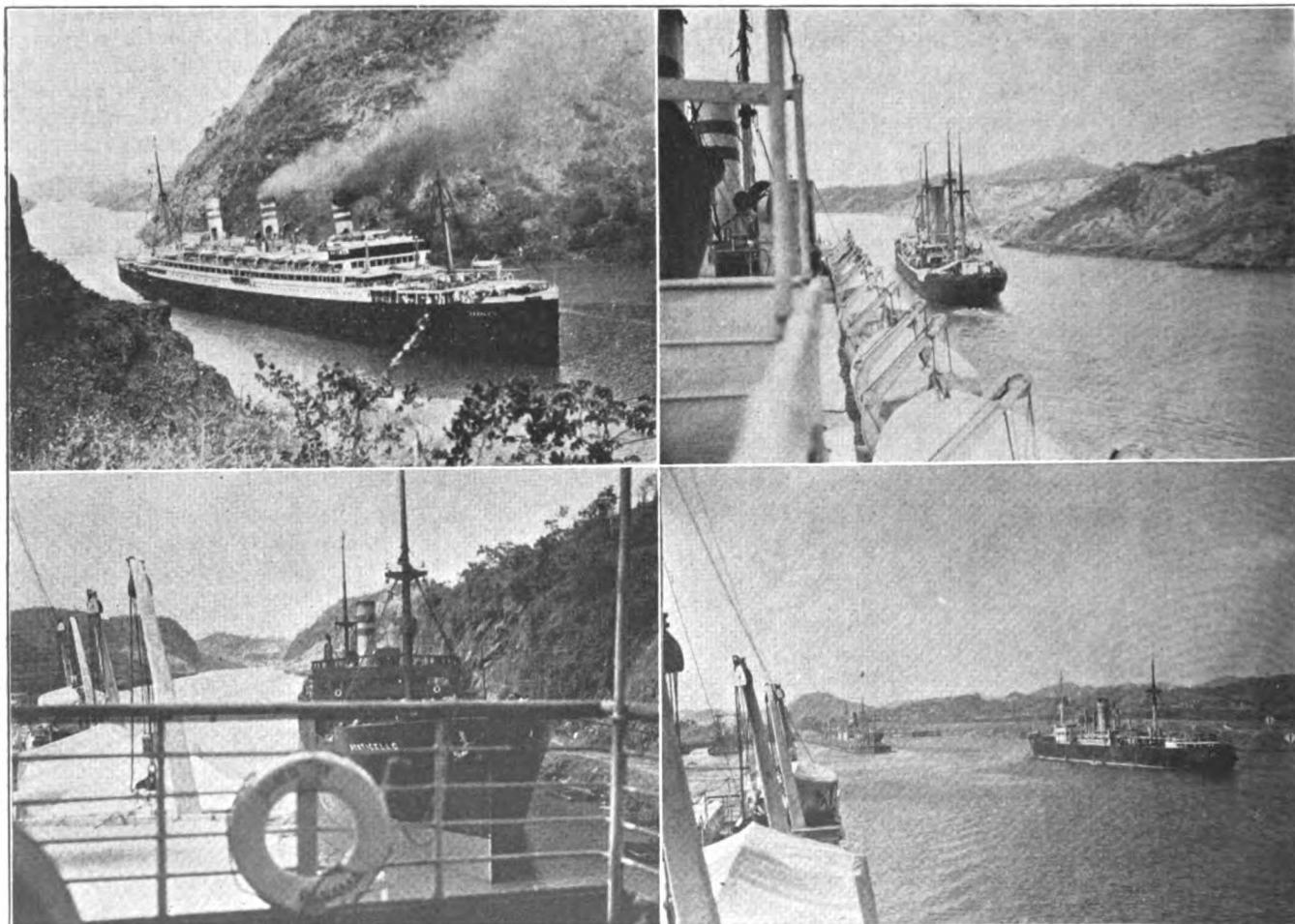
this book to be just to all concerned.

Though somewhat controversial in tone throughout, an interesting and vivid review of labor union activities over a period of many years in the marine field is presented. The personality of Andrew Furuseth looms largely in union activities and is a source of constant concern to the owner and operator. In the work of the employment service bureau it is maintained that the principle of the square deal is adhered to under all circumstances and that it acts as arbitrator between both sides, impartially giving out only even-handed justice. As long as such principles are its guide it will endure and be accorded the respect and commendation of both the employer and the

man who earns his living by going down to the sea in ships. This is the American way and it should prevail.

A third edition of "Standards of the Hydraulic Society" has just been issued by the Hydraulic society. In addition to the information contained in earlier editions, this book incorporates much new data such as standard classification of pumps; standard nomenclature and definitions pertaining to the industry; standard dimensions for cast iron flanges and cast iron flanged reducers for 125-pound and 250-pound steam pressures as adopted by the American Society of Mechanical Engineers; a complete list of chemicals and other special liquids, specifying the materials recommended in the construction of pumps for handling these special liquids. Copies of the booklet may be obtained from pump manufacturers who are members of the Hydraulic society or from its office at 30 Church street, N. Y.

## Passed Through Panama Canal the Same Day



(UPPER LEFT)—S. S. RESOLUTE OF THE UNITED AMERICAN LINES IN CULEBRA CUT, PANAMA CANAL ON JAN. 29, 1926, DURING HER TRIP AROUND THE WORLD—ON THAT DAY IN TRANSITING THE CANAL SHE MET—(LOWER LEFT)—THE S. S. MONTICELLO OF THE UNITED AMERICAN LINES INTERCOASTAL FREIGHT SERVICE—(UPPER RIGHT)—THE S. S. HESSEN OF THE HAMBURG-NORTH AMERICA WEST COAST SERVICE—(LOWER RIGHT)—THE S. S. KELLERWALD OF THE HAMBURG-SOUTH AMERICA WEST COAST SERVICE—BOTH OF THE HAMBURG AMERICAN LINE

# What the British Are Doing

Short Surveys of Important Activities in Maritime Centers of Island Empire

**S**HAW SAVILL & ALBION CO. are asking bids from leading British builders for two motor ships, each of about 20,000 tons gross for the passenger, mail and cargo service between London and New Zealand. An important feature is the increased speed proposed of 17 knots, which compares with the 13 knots of all the existing vessels. The object is to reduce the length of the passage by the Panama canal from 37 days to 29 or 30 days. The equipment is described as superior to that of any liners afloat. None of the existing vessels exceeds 12,000 tons gross. It is expected that they will take about two years to build.

\* \* \*

**I**T IS pleasant to be able to record a real revival of interest in shipbuilding, more orders having been placed within the last 10 days than in any similar period for many months past. All the shipbuilding centers have benefited by a number of orders of a fairly substantial character, providing work for the Clyde, the Tyne, Tay and Tees. As the end of January 13 new ships were placed

with Clyde shipbuilding yards. The Blythswood Shipbuilding Co., Ltd. of Scotstoun have received a contract from Furness, Withy & Co., Ltd., of London for four twin screw 10,000-ton motor ships. They are to be diesel engined vessels, each 450 feet

of two sets of eight cylinder Harland & Wolff-Burmeister and Wain internal combustion engines. These are to be made and installed by John G. Kincaid & Co., Ltd., of Greenock.

\* \* \*

**H**ARLAND & WOLFF have received from McAndrews & Co. orders for five ships for service between Liverpool and Spanish ports. They are of the same type and size as the Pinzon and Pizarro built by William Beardmore & Co., Ltd., at Dalmuir in 1921. These are single screw vessels 241 feet in length and 1367 tons gross, propelled by the first installation made of the Beardmore-Tosi internal combustion engine. The vessels are to be built at the firm's Govan yard, and will be somewhat larger than their predecessors, having 2500 tons deadweight, with a speed capacity of 12 knots. They are to be general cargo vessels, with very limited passenger accommodation. It is estimated that they will provide work for about 5000 shipyard and engine shop men for 18 months.

(Continued on Page 56)

## Fast Diesel Ships

In this interesting account of renewed activity in British shipbuilding it is clear that the hard headed experienced ship owner over there is now insisting upon a working speed of 13 knots and over for new freight ships. It is also significant that nearly all of the new orders recorded are for diesel ships.

in length, 60 feet in breadth and having a speed of 13 knots. The tween decks of the vessels will be insulated throughout, and refrigerating machinery will be installed for the supply of hot air. The propelling machinery will consist in each case

# What's Doing Around The Lakes

**C**ONSTRUCTION of a harbor at Wolf lake, on the dividing line between Illinois and Indiana and in the center of the Calumet district, has received impetus from the refusal of the Illinois division of waterways to permit the Nickel Plate railroad to go ahead with its Lake Calumet project. The Calumet Indiana Waterways association has been organized and an effort will be made to have the Wolf lake or Indiana Harbor development made the terminus of the Gulf-to-Lakes and St. Lawrence waterways.

\* \* \*

**W**HEN the Roxana Petroleum Corp., St. Louis, builds its proposed refinery and tank farm at East Chicago and Hammond, Ind., it will probably dredge the Grand Calumet river to give it an outlet

through the Indiana Harbor ship canal into Lake Michigan at Indiana Harbor, Ind. The Standard Oil Co. now uses the Indiana Harbor ship canal for loading its Great Lakes fleet.

\* \* \*

**M**AJ. RUFUS W. PUTNAM, federal engineer at Chicago, on Feb. 13 held a public hearing on the Chicago proposal to build only fixed bridges across the Chicago river. Federal authorities have not yet indicated what action will be taken but it is intimated that permission to proceed will not be given in any case until the port projects in the southern end of the Chicago district have been squared away. It is estimated that over \$1,000,000 a year in bridge upkeep would be saved if the river were closed to all except barge traffic. The proposal is to leave a clearance of

16½ feet. The Illinois division of waterways is on the side of federal engineers.

\* \* \*

**L**ATE in January the ALABAMA of the Goodrich Transit Co. fleet, of Chicago, crashed through the ice off Muskegon, Mich., and rescued five men on two fishing tugs which had become imprisoned in the ice.

\* \* \*

**I**T IS said in Chicago that Minnesota will no longer oppose the completion of the Gulf-to-Lakes waterway, leaving Wisconsin the only state bordering the Mississippi river to be against the waterway. Duluth has been in opposition because of the threatened effect of the waterway on Great Lakes level, while St. Paul favored development of the interior waterway.

# Late Decisions in Maritime Law

## Legal Tips for Shipowners and Officers

Specially Compiled for Marine Review

By Harry Bowne Skillman

Attorney at Law

WHERE a perilous situation of a vessel has already arisen when the master came on the bridge, he could not be held personally negligent, in failing immediately to grasp the situation and countermanding orders previously made by those on watch while he was below, so as to bar claim for his death.—JAMES MCGEE, 300 *Federal Reporter* 93.

\* \* \*

WHERE a vessel was chartered without restriction as to whose goods should be carried, and the charterer's agent, on the master's direction, issued bills of lading with which the charterer had no connection, the vessel was liable as a common carrier thereon; the charterer's liability to the ship as unloading and delivery agent is merely to exercise due care.—ELLA PIERCE THURLOW, 300 *Federal Reporter* 103.

\* \* \*

A CHARTER party with inconsistent terms, one that the cargo shall be loaded into the vessel, and delivered alongside within reach of the ship's tackles, will be construed against the owner, and the latter provision will govern.—Bahamas-Cuban Co. v. Southern Export Co., 298 *Federal Reporter* 596.

\* \* \*

IT WAS decided in the case of AUTOMATIC, 298 *Federal Reporter* 607 that one tug entering a fog bank at full speed, sounding her whistle, and that another tug in the fog failed to stop or slow down, showed mutual fault for a resulting collision. It was said, further, that a vessel in a fog, hearing a whistle forward of its beam, must stop as soon as it safely can, and ascertain the position of the other vessel, and that, under rule 13, a vessel in a fog has no right to navigate full speed, whether whistles are being heard or not.

\* \* \*

BY SECTION 4529 of the statutes of the United States, providing double pay to seamen during time payment is delayed beyond specified periods "without sufficient cause," the refusal or neglect to pay must be without reasonable cause. Under such section, it was held in the case of Corrigan v. United States, 298 *Federal Reporter* 610, seamen were not entitled to double wages during the ships delay at an intermediate port for repairs though thereby the term of the voyage exceeded that specified in the shipping articles, if the owner was without fault and the seamen were paid off when discharged. "It is true," said the court, "that the shipping articles described the voyage and

stated its duration to be 'for a term of time not exceeding six calendar months' but navigation is attended with so many unforeseen perils and difficulties in port that the legal effect of such a provision is that the master must make an honest and intelligent effort to complete the voyage within that time, and the seamen take the risk of contingencies which without fault of the vessel or master prolong the voyage."

\* \* \*

WHERE death follows maritime tort done on navigable waters within a state whose statutes give a right of action for wrongful death, a court of admiralty has

### Insurance Co.s' Lose Lakeland Case

The case of the insurance companies against the owners of the S. S. Lakeland sunk in Sturgeon bay, Wis., a year ago, was decided in favor of the owners at the second trial, Feb. 23. According to the reported award, a federal jury refused to credit the claim of the insurance companies that the owners had scuttled the vessel to get \$350,000 insurance and they decided that the owners were entitled to full indemnity plus accrued interest. The owners are the Thompson Transit Corp. and this was the second trial, the first ending in disagreement.

Five deep sea divers were placed on the stand by the insurance interests to testify that they had examined the sea cocks in the bottom of the vessel as she lay in 200' feet of water and had found them open. Federal Judge Paul Jones made it clear that it would be necessary to find that the owners had conspired in the sinking and that loss of the vessel through negligence was a risk covered by the policy.

Jurisdiction of a suit to enforce the statutory remedy in personam, but cannot entertain a libel in rem, unless the statute expressly creates a lien.—SAMNANGER, 298 *Federal Reporter* 620.

\* \* \*

THE case of REINA VICTORIA, 298 *Federal Reporter* 765, is authority for the statement that a ship is chargeable with the bill for goods furnished the crew, in the absence of proof that the prices were exorbitant, for water supplied to the crew, and to

furnishers of food to the crew for service of a motor car, where necessary to haul food from the grocery shop to the pier. However, one furnishing food to the crew of a ship a half mile from shore was not entitled to a lien for the amount paid for motorboat service, where it appeared that there were 23 men in the crew, and that they could have pulled to the pier and back in a rowboat.

\* \* \*

IT was shown in the case of Boston Sand & Gravel Co. v. United States, 298 *Federal Reporter* 768, that a steam lighter in a dense fog was following a government destroyer as they approached the gateway in a submarine net across a channel; that the gate was open, but had sagged under the influence of the wind and tide, and had the appearance in the fog of being closed, or partly closed; that on approaching the destroyer stopped, but continued to sound her fog bell; and that while so stopped the lighter came into collision with her. It was held that the destroyer was not in fault, but that the fault was solely that of the lighter, which knowing that the destroyer was ahead, was under the duty to proceed at such speed that she could be stopped after sighting the destroyer.

\* \* \*

IN A libel to enforce a lien for supplies, the defense that the vessel was under a charter obliging the charterer to pay all expenses was held, in the case Charles M. McCormack v. United States, 298 *Federal Reporter* 824, not available, unless the existence of the charter and the terms thereof could have been discovered by the libellant with due diligence.

\* \* \*

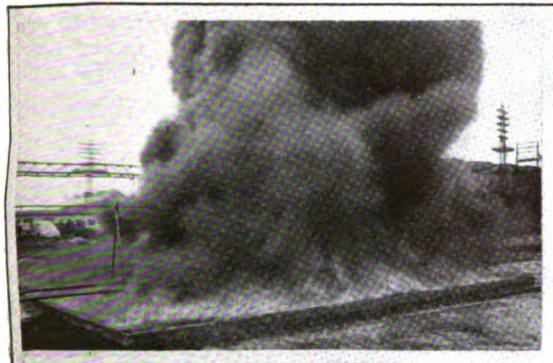
AN EFFICIENT stevedore, earning \$150 a month who was out of employment for five months by reason of the loss of the ends of the fingers of his right hand, further operation on a finger being necessary at an expense of \$100, was held, in the case of WEST ISON, 298 *Federal Reporter* 939, entitled to \$1750 from the stevedore company.

\* \* \*

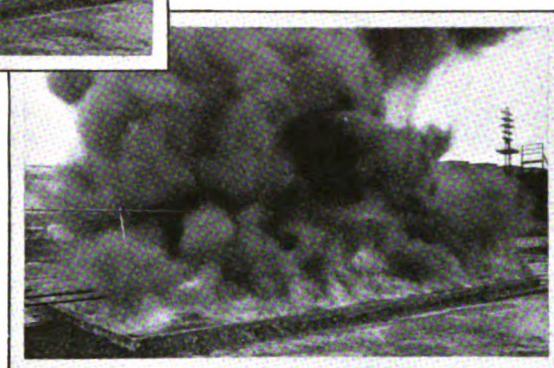
A VESSEL owned by the United States, which was employed as a training ship for apprentices for transport service for maintaining supplies and equipment of American troops abroad, and for merchant vessels operated by the United States shipping board, was a public vessel, and the United States was not liable for collision, under Act of March 9, 1920.—HAMBURG, 298 *Federal Report*, 942.

# Quick, Certain Smothering of Oil Fires!

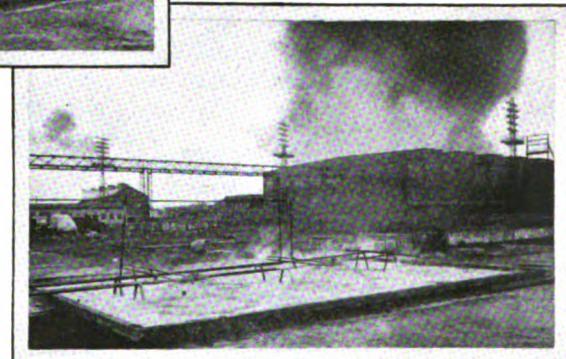
*The Bethlehem (Amdyco) Fire Extinguishing System*



*Fire!*



*Smoke!*



*Foam!*



*The Bethlehem (Amdyco) Fire Extinguishing System has received the approval of the U. S. Steamboat Inspection Service.*

*Notice the dense, strong foam blanket — despite its density it flows freely around obstructions.*

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## British Shipping Suffers

(Continued from Page 13)

number of vessels were laid up during several months in the River Plate in expectation of better conditions which did not often arise. The rates paid on time charter also were low and an average of 3s 6d (\$0.85) was the rate offered for a modern steamer of 8000 tons deadweight.

The extreme period of depression of freight rates was in the summer months, as can be seen by the accompanying chart. The index dropped continuously from 30.0 in January to 22.1 in July; it then ascended again gradually until it reached 26.1 in November. Some time ago, the British and foreign companies trading between the continent and South America agreed to quote freight rates similar to those ruling in the services from the United Kingdom. A competing line, the Byron Steamship Co., has decided to inaugurate a fortnightly service of cargoes between Hamburg and Antwerp and River Plate ports; this company has not joined the conference and, as a protective measure, the British and foreign companies have given notice that they will reduce freight rates between Hamburg to ports on the east coast of South America. This is an instance of the kind of competition now prevailing.

### Surplus Tonnage Affects Rates

Shipping and shipbuilding have been among the industries which were in the scope of the trade facilities act. The amount at present remaining for guarantee is comparatively small and there is a strong movement of opinion in favor of the condemnation of the policy. Whether owners are encouraged to build new ships, even if they scrap obsolete tonnage, or whether facilities are granted to the shipyards to build new ships, the fact remains that there is a considerable surplus tonnage available and that adding to the number would only have a further detrimental effect on rates. It is significant that 85 cargo-boat companies, on a capital of £29,195,632 (\$141,000,000) with £16,918,979 (\$82,000,000) of reserves, have only been able to pay an average dividend of 3.66 per cent. In 1925, 19 companies wound up, losing a paid-up capital of £2,874,427 (\$14,000,000); of the 85 companies mentioned above, 18 showed a loss in working and 41 paid no dividend.

In view of this state of affairs it is not astonishing that the shipbuilding industry of Great Britain should also have experienced an acute

period of depression in 1925, and there is little hope of a permanent revival in the near future. According to *Fairplay*, the shipyards of Great Britain and Ireland launched 549 merchant vessels of 1,043,072 gross tons in 1925. These figures compare with 575 vessels of 1,437,365 tons in 1924, 298 ships of 641,647 tons in the depressed year of 1923 and 933 vessels of 2,186,607 tons in 1913. It is pointed out that in 1924 the tonnage included output which would have been ascribed to the year 1923 had it not been for labor troubles. However, the past year was more unsatisfactory than the preceding year from every standpoint, although at the time of writing the outlook is slightly brighter. The financial results of 20 leading companies with a total capital of £54,169,073 (\$262,000,000), £23,445,259 (\$113,000,000) of debentures and loans, and reserves amounting to £11,252,609 (\$54,500,000), showed an average yield of only 3.12 per cent in dividends. Seven out of the 20 companies paid no dividend and only nine declared a dividend of 5 per cent or over. At the end of last year, a proposal was made by the boilermakers, and also by mayors and townsmen of the northeast coast, to press a demand for a subsidy from the government, this subsidy to be paid out of the unemployment fund. This proposal was turned down, and a large number of shipbuilders were themselves against it.

### Foreign Competition Is Serious

Much more important is the machinery which has been devised following the joint inquiry by the shipbuilding employers' federation and the shipyard trade unions into foreign competition and conditions in the shipbuilding industry. An interim report was issued on Aug. 25 containing proposals to reduce production costs by the means of better use of various classes of workmen from the point of view of continuity of work, interchangeability of craftsmen and substitution of specialized workmen in cases of shortage. Later in the year, in December, the engineering and shipbuilding trade federation issued recommendations to their members for the purpose of avoiding trade disputes. This showing of close co-operation between employers and workers is one of the gratifying features of the industry. In the meantime the number of new orders obtained by the shipyards has been small, one of the most satisfactory being a contract for six 9000-ton diesel motorships placed by the newly-formed Silver Line, Ltd., with two Sunderland shipyards. Al-

though a slight revival was noted toward December, it was not sufficient to encourage great hopes. It is contended in some quarters that there are too many shipyards at present to make working economical, not only in Great Britain but also on the Continent. In Great Britain alone the shipyard capacity is estimated as being 20 per cent above the pre-war figure, the number of yards being about 100.

### Increase in Oil Burners

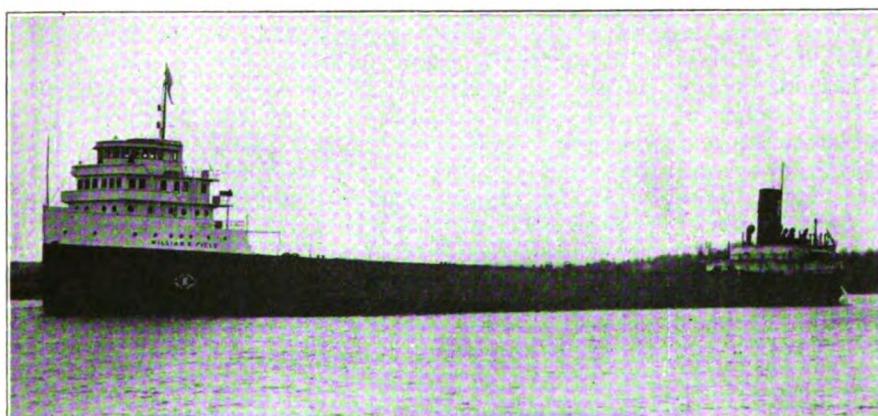
Lloyd's annual report reveals the progress of oil burners. It states that of a total tonnage now afloat aggregating about 62,380,000 gross tons, 41,862,000 tons are coal burners and 20,518,000 tons are oil burners, or a proportion of about one to two. However, it is pointed out that if coal prices could be brought down, the steam engine with coal-fired boilers might obtain a renewed lease of life. On the other hand, the high pressure turbine is being introduced for marine purposes. The British ship repairing industry also has suffered and many jobs were taken at prices under actual net costs, which otherwise would have gone to continental shops. Two important Cardiff ship repairing and drydock owning concerns are on the point of consolidating. In the sale and purchase market the year has been disappointing. While the contract price for new vessels, based on 7500-ton cargo steamer, was £8 (\$38.80) per ton deadweight on Jan. 1, 1926, as against £9 1s 4d (\$44) on Jan. 1, 1925, the values of second-hand tonnage have also depreciated. The volume of business has decreased and many vessels were declined on inspection. In the second half of 1925, over 150,000 gross tons were reported to have been sold for demolition purposes. However, breaking-up values dropped to about 25s to 30s (\$6.05 to \$7.30) per gross ton for cargo-boats. Many ships of from 15 to 20 years old have been bought by the Italians and the Greeks.

Giving evidence before the Royal coal commission, Sir Ernest W. Glover and Richard D. Holt, past-presidents of the chamber of shipping of the United Kingdom and Liverpool steamship owners' association, laid stress on the influence of coal on shipping and shipbuilding. The decrease of coal exports and the high prices paid for coal are partly responsible for the present conditions of the British shipping and shipbuilding trades. The total exports of coal from Great Britain during the first eleven months of 1925 were 46,185,067 tons, compared with 56,483,748 tons in the correspond-

# Toledo Shipbuilding Company Inc.

TOLEDO - - - OHIO

*Builders of the  
World's Record Cargo Ship*



**Steamer William K. Field**

*604 ft. Long, 60 ft. Beam, 32 ft. Depth. Deadweight Tonnage 12000.*

OVER half a million tons of freight carried—forty six cargoes of ore and coal delivered in seven months and seventeen days by the steamer William K. Field.

This remarkable performance earned her the title, "Champion Freight Carrier of the World". During the season 1924 on the Great Lakes she registered a total

of 552,014 tons. *An unprecedented accomplishment!*

The William K. Field is owned and operated by Reiss Steamship Company, Cleveland, Ohio. Her type of construction permits rapid loading and discharge of cargo. This was an important factor in her record breaking performance.

## Builders and Repairers of Ships and Engines

*Please mention MARINE REVIEW when writing to Advertisers*

ing period of 1924 and 73,575,713 tons for 1923. The tonnage of coal shipped for the use of steamers engaged in the foreign trade for the period ending Nov. 30, 1925, was 14,991,712 tons, as against 16,173,900 tons in 1924 and 16,703,713 tons in 1923. This again shows a decrease which was due mostly to slack trade and the use of fuel oil. However, since the middle of November, greater activity has been recorded in the coal mines and foreign shipments have been more satisfactory. It is interesting to note that in the latter part of last year shipments to the United States increased appreciably. In November, 1925, exports to the United States were 145,957 tons, as against 13,284 tons in November, 1924; the shipments for the eleven months ended Nov. 30 were 230,841 tons in 1925 and 88,766 tons in 1924. This fillip to British trade was due to the anthracite coal strike in America. One of the largest contracts at the end of the year was for 300,000 tons for the Egyptian State railways. A contract for 400,000 tons is also reported to have been placed by the Greek government for delivery at the rate of 80,000 tons per year during the next five years. Although the coal mines have been more active of late, the underlying conditions remain critical, since business is only obtained by cutting prices to unremunerative levels and only the government subsidy has enabled the colliery owners to accept such low prices. Prices for export have been declining almost

continuously from 21s 7d (\$5.20) the average f.o.b. price in January, 1925 to 18s 5d (\$4.50) in November, while in 1924 the average for the year was 24s 6d (\$5.70). An aggregate net loss of £588,189 (\$2,840,000) was registered by the collieries for the September quarter, despite the government subvention of £3,360,744 (\$16,300,000). Only two districts showed a credit balance. However, at the beginning of the new year a few collieries were on the verge of being re-opened.

#### An Adverse Balance of Trade

The value of British exports, exclusive of bullion and specie, during the first eleven months of 1925 was £707,317,749 (\$3,425,000,000), as against £726,056,715 (\$3,525,000,000) for the corresponding period of 1924. On the other hand, the value of imports for the period under review was £1,188,683,445 (\$5,780,000,000) in 1925 and £1,148,244,130 (\$5,580,000,000) in 1924. Thus exports decreased by 2.6 per cent, whereas imports increased by 3.5 per cent. The adverse balance of trade for the first eleven months of 1925 was £481,365,696 (\$2,340,000,000), as against £422,187,415 (\$2,050,000,000), or an increase of 14 per cent. The export values compared with those of 1924 show a decrease of £20,305,930 (\$98,000,000) for coal alone; this is about as much as the estimated amount of the government subsidy for the nine months

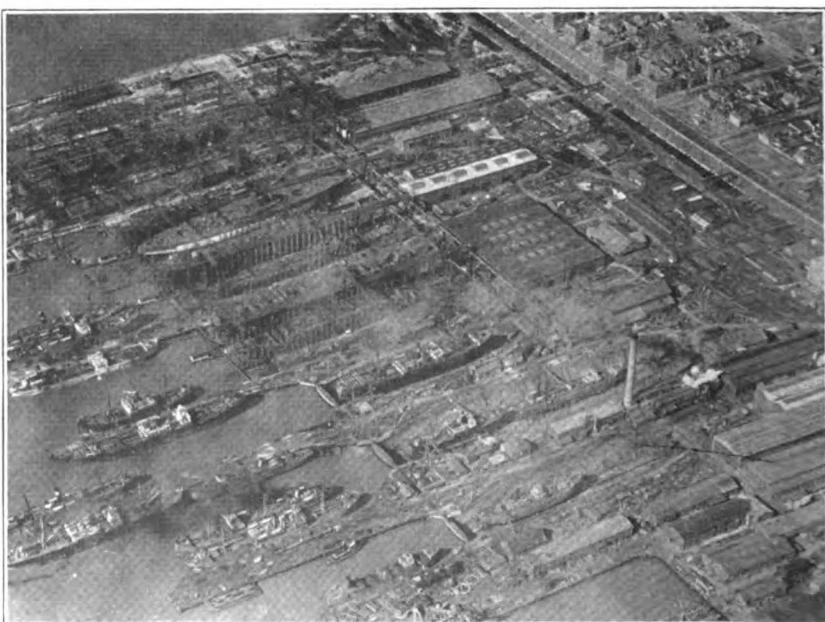
ending May 1, 1926. A decrease of £7,445,998 (\$36,200,000) was registered with respect to woolen and worsted yarns and manufactures, and £6,724,405 (\$30,075,000) for iron and steel and their manufactures. Other decreases exceeding one million pounds sterling were for coke and manufactured fuel, chemicals and apparel. The largest increases in export values were for vehicles, including locomotives, ships and aircraft; machinery, cotton yarns and manufactures, grain and flour, for which the increase was of over £1,500,000 in each case. There was a reduction of over £3,342,661 (\$16,100,000) in the import value of iron ore and scrap.

During the first eleven months of 1925, a total of 50,233 vessels, trading foreign, of 50,957,738 tons entered British ports with cargoes, compared with 48,731 vessels of 50,407,433 tons in the corresponding period of 1924. In the same period, 55,690 vessels of 57,221,141 tons cleared from British ports with cargoes to foreign destinations, including British Dominions, compared with 60,950 vessels of 60,106,249 tons in 1925. The number of British and foreign ships entering British ports slightly increased, while the number and tonnage of both British and foreign ships clearing from the ports have decreased in a greater proportion. Of the total tonnage which cleared from the ports of Great Britain, 10,247,325 tons, or 18 per cent, went to the Atlantic coast of North America.

## Will Launch Nine Vessels Within Three Hours

**A**IR view of the great yard of the Newport News Shipbuilding and Dry Dock Co., Newport News, Va., where nine ships will be launched and three keels laid within 3 hours, Saturday, March 20. The five types of vessels to take the water range from a liner to half-million dollar yachts. Never before in the history of American shipbuilding have so many ships of so many types been launched in such a short space of time.

All of the seven ships in process on the giant \$4,000,000 shipways originally built for the battle cruisers Constellation and Ranger, will be launched by a floating method, rather than in the usual manner. The two remaining ships of the nine—the new Dorchester of the Merchants & Miners Transportation Co. and the war department dredge Raymond will slide down greased ways in the familiar fashion.



# SUN SHIPBUILDING & DRY DOCK COMPANY

*Builders of*

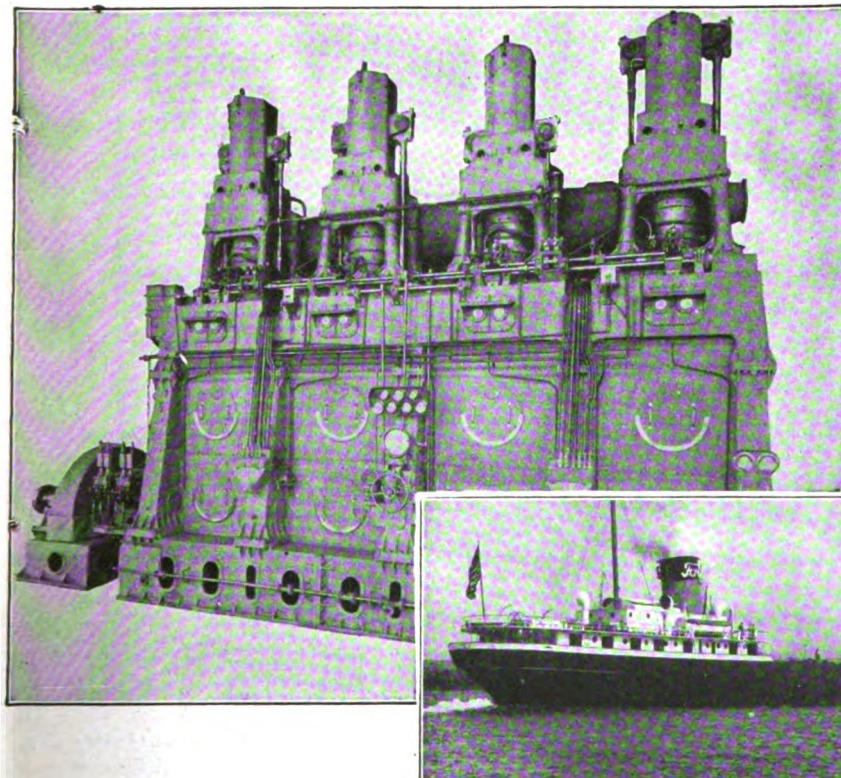


**SUN-DOXFORD  
DIESEL ENGINES**



*The Engines that Power*

**“HENRY FORD II” and “BENSON FORD”**



3000 S. H. P. Sun-Doxford Diesel Engines power the two motor-ships, “Henry Ford II” and “Benson Ford”.



*M. S. “Henry Ford II”*

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## Bracketless System

(Continued from Page 16)

for vessels carrying petroleum in bulk.

Stated briefly, the Isherwood system comprises a series of widely-spaced deep transverse frames and beams extending in the form of belts completely round the vessel. The transverse frames, which are riveted to the hull and decks, are slotted round their outer edges to admit the passage of continuous longitudinal stiffeners, which are also riveted to the hull and decks. In the case of an oil tanker on the Isherwood system, the longitudinals at the sides, bottom and deck of the vessel, as well as

caused a fair amount of trouble through leakage, and after considerable investigation, Sir Joseph W. Isherwood, Bart., has introduced an improvement to his system of framing which has for its primary object the elimination of bulkhead brackets, so obviating the danger of leakage at these points, while at the same time maintaining the continuity of longitudinal strength. This system is known as the "bracketless-system." The bracketless-system, as applied to a tanker, is the conventional Isherwood system, but without any brackets whatever to the longitudinals in the oil tanks. In discarding the brackets the strength of the structure is main-

head brackets shown in Fig. 1 have two primary functions to perform—first, each to connect its longitudinal to the bulkhead; and second, the brackets maintain the continuity of the longitudinals and bind the structure along with the shell and deck plating into a homogeneous whole, the bulkheads forming points of comparative rigidity. The bulkheads and deep transverses in combination with the shell and deck plating carry the whole volume of the load, and the longitudinals serve to transmit their individual small loads to the transverses and bulkheads.

Treating the longitudinal members as beams, the stress on each is at a

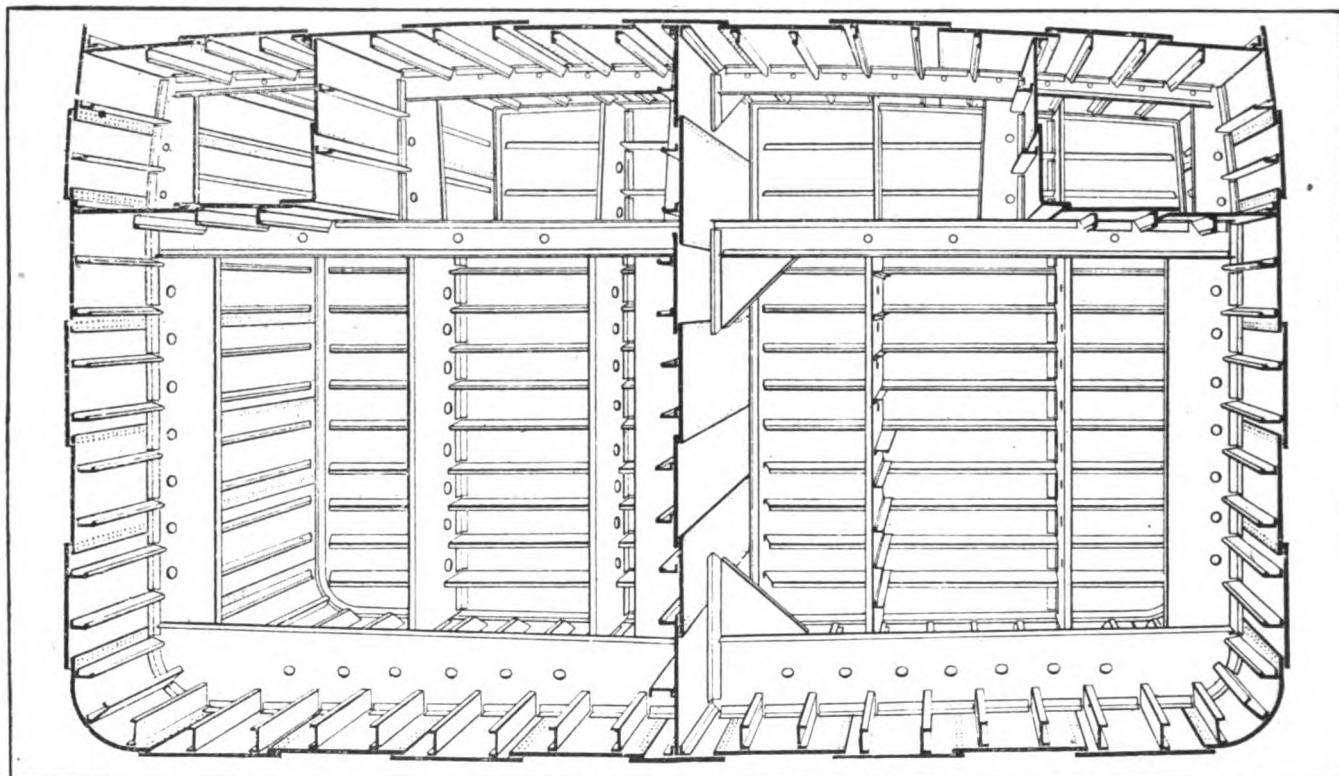


FIG. 2—BRACKETLESS SYSTEM—STIFFENING SIDE OF BULKHEAD

the longitudinal stiffeners on the center line bulkhead, are all stopped at the transverse bulkheads and bracketed thereto through the medium of the stiffeners on the transverse bulkheads. The system, with its more scientific distribution of stresses, dispensing as it does with the large bulkhead brackets of the old transverse system, greatly minimized the leakage at the bulkheads. This result, however, was achieved only at some expense, which, on the other hand, was more than counterbalanced by the economies effected in other directions.

Oil is a particularly searching liquid, and if there is any faulty workmanship put into riveting, caulking and plate work, then oil will find that weakness very quickly. It has been found by experience that brackets

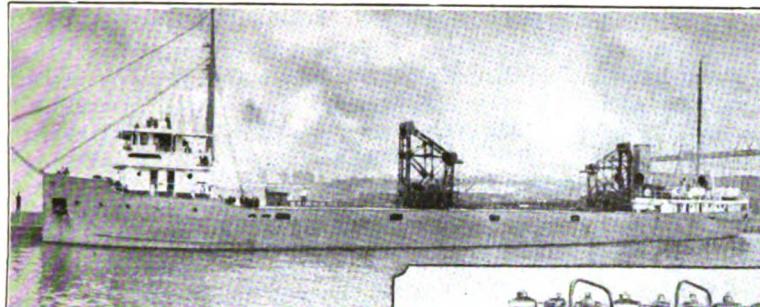
tained by an ingenious distribution of scantlings and material.

Fig. 1 is a perspective drawing of the established tanker, and shows at the left, the caulking side and at the right the stiffening side of the bulkhead. Fig. 2 is a similar drawing of the "bracketless" tanker, showing the stiffening side of the bulkhead; and Fig. 3 shows the caulking side of the bulkhead.

In Fig. 1 will be observed the large number of brackets connecting the longitudinal members of the deck, sides and bottom to the bulkheads, and also the brackets connecting the horizontal stiffeners of the middle line bulkhead to the transverse bulkheads. Figs. 2 and 3 show that all of the brackets have been eliminated.

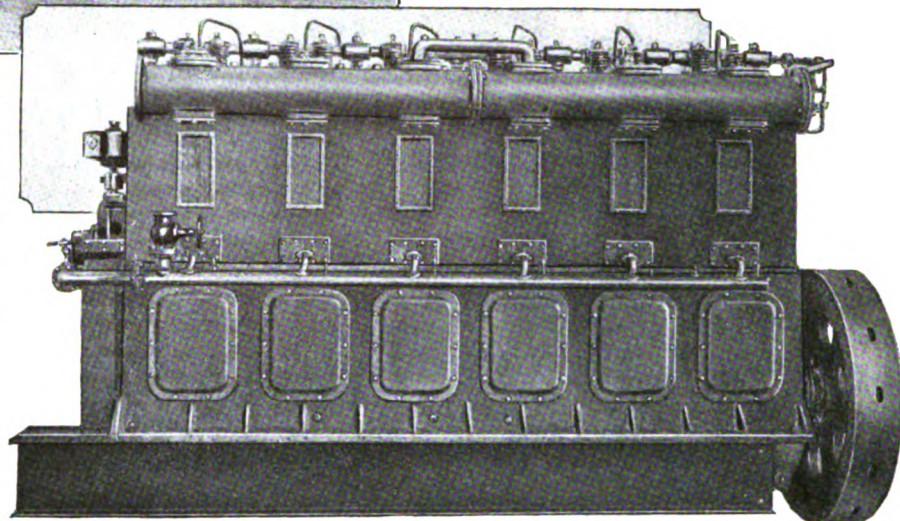
It will be appreciated that the bulk-

maximum at the points of fixity (or fixity for all practicable purposes), and that is at the deep transverse frames and at the bulkheads. While under static conditions the stress on the longitudinals at the transverses and bulkheads might be the same, yet when the vessel is in a seaway it will be readily appreciated that the maximum work of these members is performed at their connections to the bulkheads—the points of maximum rigidity—hence the trouble with bulkhead brackets. The claim of the bracketless-system is that it removes this maximum point of stress on the longitudinal member away from the bulkhead. This has been done by fitting the deep transverse frames in closer comparative proximity to the bulkheads than hitherto, that is, in-



A 2,300 d. w. ton steel carrier of the U. S. Steel Corporation operating on the Great Lakes. A sister ship, now being built at the Federal Ship-building and Dry Dock Company, is being fitted with three 300 H.P., type 4 M 1-22, Nelseco Diesel engines of the mechanical injection type.

The Nelseco 300 S.H.P. Mechanical Injection, 6 cylinder, type 6 M I-18, Diesel Engine (back view). Note the simplicity of the design.



## Powered with three Nelseco M. I. Diesels

FOR a new 2,300 d. w. ton steel carrier, the U. S. Steel Corporation has chosen three 300 S. H. P. Nelseco Diesel engines of the mechanical injection type.

This selection is easily understood when the following facts are considered:

Nelseco Diesel engines are economical in operation and require little expense for maintenance and repairs. This has been proven time and again both in tests and actual service.

Nelseco Diesel engines are noted for the simplicity of their design, the ruggedness of their construction and the fact that all moving parts are readily accessible.

Before you select your Diesel, let Nelseco engineers give you valuable data concerning fuel consumption and maintenance costs. Nelseco facilities include conversion from steam to Diesel power and new ship-building construction. Write for Pamphlet MR.

THE NEW LONDON SHIP AND ENGINE CO.  
Groton, Conn. U. S. A.

Nelseco Diesels are built under M. A. N. patents; in 4 cycle, single acting type, from 100 to 850 H. P.; in 2 cycle, double acting type, from 1,000 to 10,000 H.P. mechanical or air injection; suitable for yachts, tugs, freight and passenger vessels. A 180 H.P. Nelseco Diesel is conveniently placed for your examination at

PORT ELCO  
247 Park Ave., New York, N. Y.

Demonstrations made on appointment

# NELSECO

Original licensees from and collaborators with M. A. N. since 1910

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stead of either having an equidistant spacing of deep transverses between the bulkheads or of having the transverses at a greater distance from the bulkheads than the equal spacing, the transverses are at less distance from the bulkheads than the distance between the transverses.

#### Transverses Placed Nearer Bulkheads

Instead of this equal or alternative spacing, the spacing adopted in the "bracketless-system" is that of 7-10-7, thus in an oil tank hold 30 feet long

on the longitudinals, treated as beams, are now transmitted to the deep transverse frames, for which purpose they are increased in strength, and the stress on the longitudinal at the bulkhead is reduced to a minimum instead of a maximum as in the case where brackets are fitted. Not only is each individual longitudinal considered in the same manner, but each horizontal on the transverse and longitudinal bulkheads is likewise considered.

the displacing of the brackets is utilized for increasing the sizes of the skin longitudinals and the horizontal bulkhead stiffeners, indeed it is expected that for given dimensions the bracketless ship will be slightly heavier than the straight Isherwood ship. Looked at from the point of view of the owner, however, it is difficult to conceive of any tank ship owner being unwilling to make some slight concession in the matter of deadweight to secure immunity from the ever present bugbear of leakage at the bracket connections, with the consequent expense of upkeep which in the life of a tanker becomes a serious matter, while at the same time securing a structure which offers every facility for rapid and efficient cleaning and expedition and economy in repairs.

#### Construction is Simplified

The aspect which will appeal to the shipbuilder is the further simplification of construction as compared with the Isherwood system and the important saving in the cost of labor presented by the elimination of some hundreds of brackets, the fitting of each of which has hitherto entailed the employment of a squad of riveters, a holder-up and the services of a driller.

A vessel of 10,750 tons deadweight is now being built by Palmers Shipbuilding & Iron Co., Ltd., Jarrow-on-Tyne, to the highest classification of Lloyd's register of shipping, for the carriage of petroleum in bulk, and we understand that the anticipations of ease of construction are being fully realized.

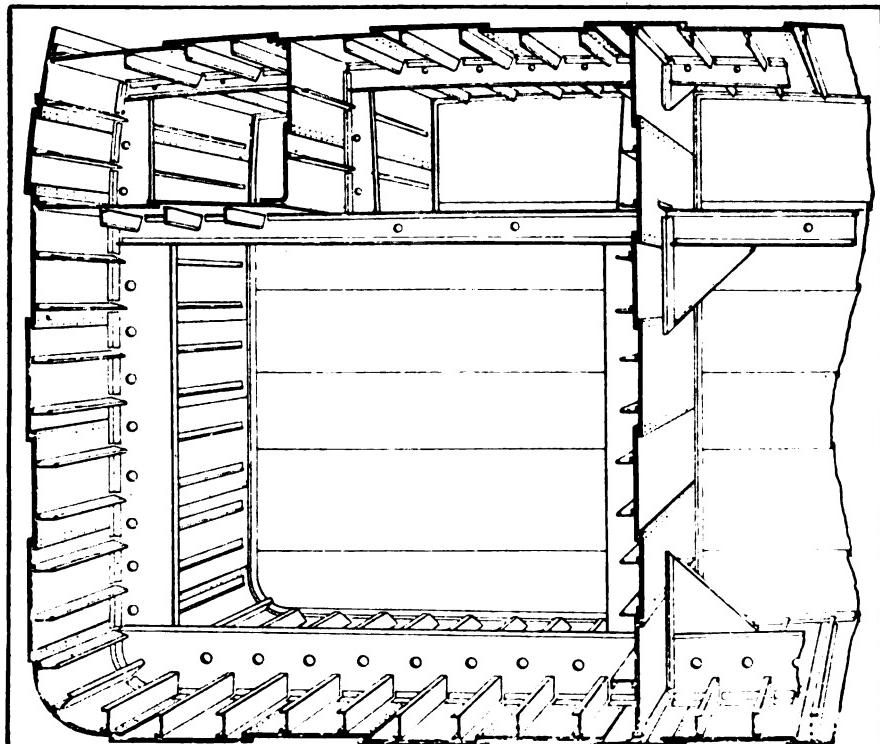


FIG. 3—BRACKETLESS SYSTEM—CAULKING SIDE OF BULKHEAD

and having two transverses in each tank the distance is:

	Feet Inches
From bulkhead to adjacent transverse	8    9
From transverse to transverse	12    6
From transverse to bulkhead	8    9
Length of oil tank	30    0

It will be seen that the longitudinals must be much stronger to take care of the increased span between the transverse frames than with the equal spacing, viz.: in the proportion of  $12.5^2 = 156.25$  as compared with  $10^2 = 100$ , or an increase in the modulus of the section of over 50 per cent than would be required with the equal spacing. The part of the longitudinal between bulkhead and adjacent transverse is, therefore, considerably heavier than would be the case if brackets were fitted although the span between the transverses and bulkhead is substantially less.

Considering, for comparative purposes, the longitudinal as fixed at the transverses and supported only at the bulkheads; the maximum stresses

Having now arrived at a disposition of materials which has relieved the bulkheads of one kind of stress which has been the cause of trouble there remains the question as to how to maintain the continuity of the longitudinals which are not bracketed to the bulkheads. This is done by the fitting of shell doublings or wide liners in the vicinity of the bulkheads. In a large vessel now under construction these doublings are fitted in way of every stanchion on the bottom, alternate stanchions at the sides of the ship and alternate stanchions at the deck. The advantages claimed for the new system are: Reduced cost of upkeep; reduced cost of damage repairs; reduced cost of cleaning; elimination of damage and leakage due to the dispensing with the bulkhead bracket connections; reduced labor constructional cost and greater rapidity in construction.

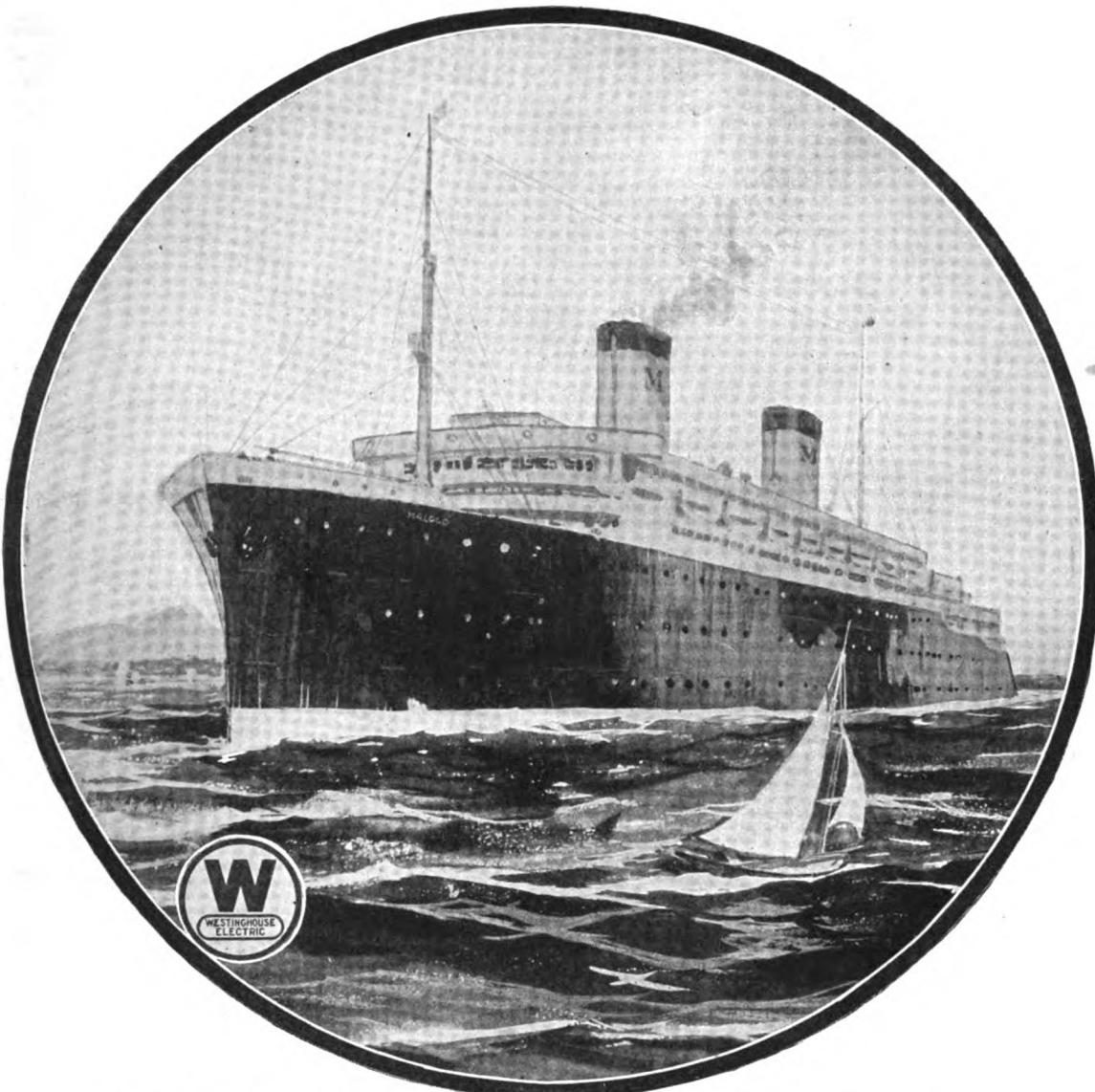
As compared with the Isherwood system no saving in weight of material is claimed as the steel saved in

#### January Lake Levels

The United States lake survey reports the monthly mean stages of the Great Lakes for the month of January as follows:

Lakes	Feet above mean sea level
Superior	600.46
Michigan-Huron	577.37
St. Clair	571.84
Erie	570.02
Ontario	244.28

Lake Superior is 0.39 foot lower than in December and it is 0.60 foot lower than the January stage of a year ago. Lakes Michigan-Huron are 0.17 foot lower than in December and they are 0.85 foot lower than the low January stage of a year ago. Lake Erie is 0.37 foot lower than in December and it is 0.60 foot lower than the low January stage of a year ago. Lake Ontario is 0.27 foot lower than in December and it is 0.06 foot higher than the January stage of a year ago, 0.87 foot below the average stage of January of the last ten years.



## Westinghouse Electrical Equipment Selected For **S. S. MALOLO**

The Largest Passenger Ship ever built in American Yards

**T**HE joint efforts of owner, marine architect and ship-builder bring together in this one ship equipment representing the highest Standards of American Marine construction.

**Westinghouse Electrical Equipment has been selected to furnish all light and auxiliary power.**

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY  
EAST PITTSBURGH PENNSYLVANIA  
Sales Offices in All Principal American Cities  
Service Stations in Principal American Ports  
Special Pacific Coast Representatives  
HUNT, MIRK & CO., SAN FRANCISCO

# Westinghouse

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## Launch Liner in June (Continued from Page 18)

furnished by Babcock & Wilcox. In auxiliary equipment the MALOLO will be furnished in general with Worthington pumps. The electric generators will be of Westinghouse Electric & Mfg. Co. manufacture and so will also the main electric switchboard.

In deck equipment the lifeboats are being made at the works of the American Brown Boveri Electric Co. successors to the New York Shipbuilding Corp. The windlasses are being made by the Hyde Windlass Co. of Maine; and the winches by Murray Brothers of San Francisco. The steering engine is being built by the Bethlehem Shipbuilding Corp. Ltd., at its Moore works in Elizabeth, N. J. The bronze propellers will be cast in the Cramp's shipyard brass foundry and finished in its own shops.

The turbines are being built by Cramp's in their own shops. The shaft forgings are from the Bethlehem Steel Co. and are also being machined in the Cramp shops.

Although the keel was laid only as recently as May 4 of last year, the construction of the MALOLO has progressed to an advanced stage. Owing to her great length the forward frames from No. 1 to No. 16 have not been placed although the long, high nose of the stem is in place and rises high in the air. These frames have been left until the last since, when they go into position the job of handling material from the ground by the overhead cranes will be appreciably slower and more difficult. All other frames are in place and the shell plating competently attached from the stern forward to frame 16. The decking on F deck and G deck is completed. Decking on E deck is practically completed and many plates are already either bolted or riveted on C deck. Workmanship throughout is of the best.

Below, the foundation for the powerful turbines in both the port and starboard engine rooms are in an advanced state as well as the bases for the shaft bearings clear through the shaft tunnels. Forward

of the engine room the boilers have been assembled and erected.

In the machine shops at Cramp's work is being pushed on the turbines and condensers and shafting bearings, and various auxiliary fittings. The line shafting is approximately 80 per cent completed, while the work in setting the turbine blades both in shells and rotors is in an excellent state of progress.

Such is the progress of the MALOLO an event in American shipbuilding—not because it is the building of a ship, swift and big and luxurious though she is—but particularly because she is the first passenger ship built in America in well over two generations that belongs in the little group of the leading ships of the world, and one that can compare with any ship that has been, or is being put out by any of the great maritime nations of the world. It is in entire seriousness that we suggest that, in the building of this splendid ship, there is the significance that the day of the restoration of the American merchant marine is dawning.

## Speed, Power and Fuel for M. S. Gripsholm

### FIRST VOYAGE OUT

Departure: Gothenburg, Nov. 21, 1925, 12 noon.  
Arrival: Pier, New York, Nov. 30, 1925, 11 a. m.

#### Combined Power of Main Engines

Mean indicated horsepower for the total voyage..... 15,740  
Maximum indicated horsepower for the total voyage..... 16,150

#### Fuel Consumption

	Tons
Total fuel consumption of main engines .....	420.8
Per 24 hours .....	47.2
Total fuel consumption of Diesel generators and Diesel compressors .....	92.6
Per 24 hours .....	10.4
Total fuel oil consumption of heating boiler .....	57.0
Per 24 hours .....	6.4
Total fuel consumption of galley .....	6.8
Per 24 hours .....	0.75
Average fuel consumption for all purposes, per 24 hours .....	64.75
Average fuel consumption per indicated horsepower hour of main engines, pound .....	0.275

#### Speed

Average speed over the distance measured on the chart, knots.....	16.05
Average speed according to log, knots .....	16.35
Maximum speed for 24 hours, knots .....	17.3

### FIRST RETURN VOYAGE

Departure: New York pier, Dec. 9, 1925, 12:52 p. m.  
Arrival: Gothenburg, Dec. 18, 1925, 11 a. m.

#### Combined Power of Main Engines

Mean indicated horsepower for the total voyage..... 15,860  
Maximum indicated horsepower for the total voyage..... 16,465

#### Fuel Consumption

	Tons
Total fuel consumption of main engines .....	420.1
Per 24 hours .....	48.3
Total fuel consumption of Diesel generators and Diesel compressors .....	81.9
Per 24 hours .....	9.4
Total fuel consumption of heating boiler .....	66.0
Per 24 hours .....	7.6
Total fuel consumption of galley .....	6.2
Per 24 hours .....	0.7
Average fuel consumption for all purposes per 24 hours .....	66.00
Average fuel consumption per indicated horsepower hour of main engines, pound .....	0.28

#### Speed

	Knots
Average speed over the distance measured on the chart .....	16.75
Average speed according to log .....	16.75
Maximum speed for 24 hours .....	16.95

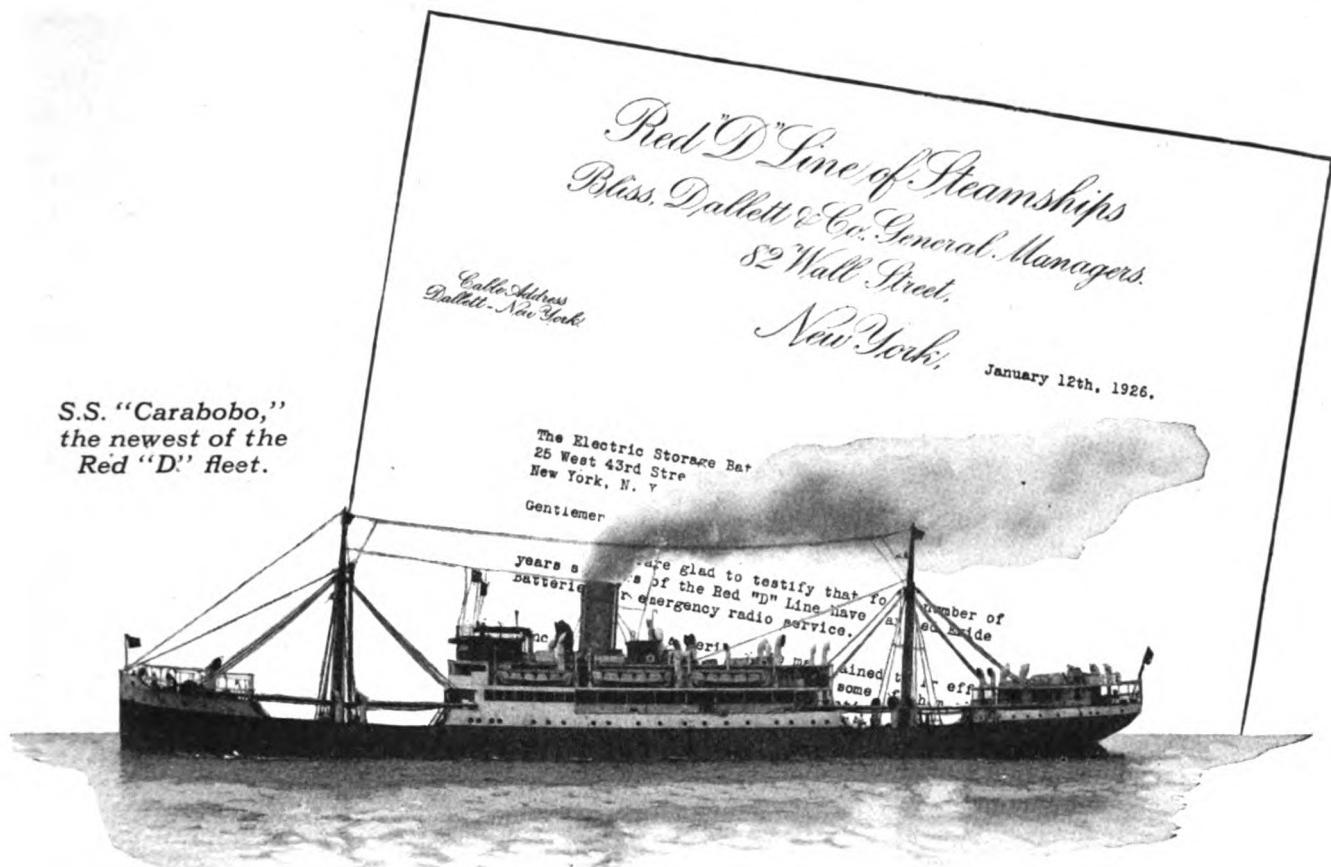
## State of Machinery After Voyages

DURING the few days in New York all of the machinery was thoroughly inspected including the inside of the cylinders, this being done through the exhaust valves. Everything was found in complete working order.

After the arrival at Gothenburg after the return voyage the machinery was again thoroughly inspected and found to be in complete order. Three of the cylinders were opened up for inspection, and both pistons and cylinders liner were perfectly clean and had adopted the polished surface

well known in the Burmeister & Wain 4-cycle single-acting machinery. There were no coke deposits, no gummed-up pistons, and the wear on the cylinder was measured and found to be below 1/200 millimeters.

The overhaul was easily undertaken by the ships' engine crew during the stay at Gothenburg, and according to the company's sailing schedule, the M. S. GRIPSHOLM left Gothenburg on Jan. 5 for her second trip westward. An illustrated description of this vessel was published in the January number of MARINE REVIEW.



## On all the steamers of the Red "D" Line

**T**HE Red "D" Line is one of the big American coastwise lines, plying between New York and South America.

Everyone of the Red "D" steamers carries an Exide Battery as emergency radio equipment. The letter below tells its own story of the service these batteries have given:

"We are glad to testify that for a number of years steamers of the Red 'D' Line have carried Exide Batteries for emergency radio service."

"These batteries have maintained their efficiency under all weather conditions, some of them giving very long service without losing effectiveness."

"Our last new steamer, the 'CARABOBO,' is equipped with a 60-Cell Exide Marine Radio Battery."

"We have no doubt the careful inspection given each battery by your Inspection Department adds to their efficiency and life."

Long life and steady reliability are two things an emergency radio battery has got to have. And because Exide Marine Radio Batteries have these qualities, because they pass inspections in perfect shape year after year —they have been adopted by many of the large steamship companies as standard equipment on all their vessels.

If you will write us, we shall be glad to give you, without obligation, full information on Exide Marine Radio Batteries.

**Exide**  
**BATTERIES**  
**FOR MARINE RADIO**

**THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia**

*Exide Batteries of Canada, Limited, 153 Dufferin Street, Toronto*

*Please mention MARINE REVIEW when writing to Advertisers*

## Use Decked Lifeboat

(Continued from Page 21)

partments (seven in the 24-foot size), each provided with a manhole to permit of painting and inspection. These compartments also furnish ample accommodation for the stowage of food supplies. A sufficient number of large scuppers with automatic self-closing valves are provided to drain the boat effectively.

Cypress thwarts and seats are laid on angle iron gunwales to which are hinged high folding weatherboards. These boards, at sides and ends, can be quickly raised and automatically lock into position. Wooden guards extend along the outside of the weatherboards. When the boards are folded down, the guards supply all the necessary chocking support for nesting another Lundin boat. Provision is made at each end for the desired releasing gear.

On the high aft deck the helmsman may stand free from interference by the passengers and with a large area of vision. The flat bottom makes it possible to push off from the ship's side with a quick and safe getaway, and together with the spoon-shaped ends permits of safe towing particularly in rough water. The shape of the boat and the position of the oarlocks makes it easy for an inexperienced crew to handle.

### Maximum Buoyancy

The four standard sizes of Lundin decked lifeboats are similar in model. The following buoyancy figures, given for the 28-foot, 60-person boat, are therefore, proportionately true for the 24-foot, 26-foot and 30-foot sizes.

The total weight of the boat, 4600 pounds, plus the weight of 60 persons at 165 pounds is 14,500 pounds. To

## Lundin Decked Lifeboats

### Dimensions and Capacity

	24'0"	26'0"	28'0"	30'0"
Measured length .....	403	507	607	765
Total volume, cubic feet .....	40	50	60	76
Rated capacity, persons .....	3400	4000	4600	5500
Weight of boat alone, pounds .....	9350	11300	13300	16500
(Persons figured at 140 pounds each)				
Overall length .....	24'8"	26'8"	28'8"	30'8"
Beam over fenders .....	8'0"	8'8"	9'4"	10'0"
Depth with sides folded—Amidships .....	2'10"	3'0"	3'1"	3'4"
At ends of boat .....	3'9"	4'0"	4'3"	4'6"
Nested height, two boats—Amidships .....	5'8"	6'0"	6'2"	6'8"
At ends of boat .....	6'7"	7'0"	7'4"	7'10"

NOTE—Lundin lifeboats are also made in a semidecked type of the following sizes, approved as Class 1-A lifeboats: 14-foot, 12-person; 20-foot, 20-person, and 20-foot, 25-person.

support this weight, the body of the boat, up to the deck, has a volume of 285.8 cubic feet, and the fenders 37.1 cubic feet, making a total of 322.9 cubic feet, or a buoyancy of 20,666 pounds. This gives a minimum reserve buoyancy of 6166 pounds or 29.8 per cent of the total permanent buoyancy, which cannot be destroyed unless the boat is damaged by puncturing the watertight compartments or by removing the fenders. As a matter of fact, the reserve buoyancy is even greater considering the total buoyancy of the boat and fenders up to the gunwale. In this case the reserve is 17,500 pounds or 54.7 per cent of the total buoyancy, which can be diminished only temporarily by shipping water into the boat. Protection against this is provided by the unusually high freeboard with the weatherboards raised and by the scuppers, as well as by its great stability. The draft of the loaded boat is 16 inches, which leaves a freeboard to top of gunwale of 15 inches, and to top of weatherboards of 33 inches.

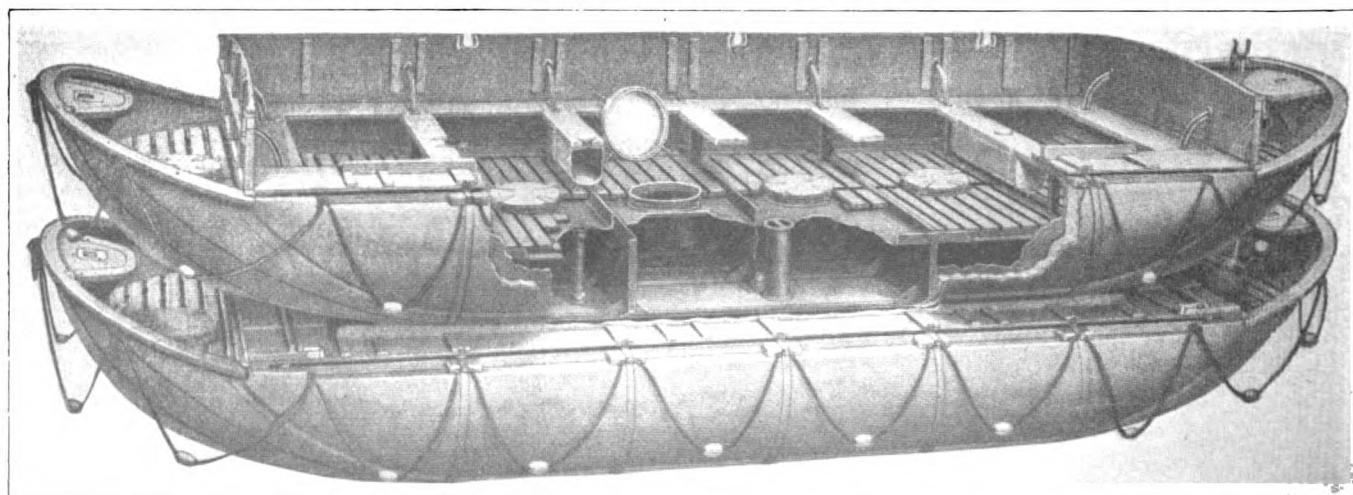
The watertight compartments are of nearly equal capacity. There would be enough reserve buoyancy

left if two compartments were flooded, for the boat to carry its rated number of persons with the deck above the waterline. Assuming the improbable contingency of the loss of both fenders and the opening of all but three compartments, the boat, though down to the gunwales in the water, would still be safe with its passengers hanging on, sufficiently supported by it.

### Stability Has Been Tested

The design of the Lundin decked lifeboat provides a stability in excess of that obtained in the usual type of lifeboat. Comparative tests conducted by the Massachusetts Institute of Technology, have demonstrated that for boats of equal length the Lundin boat possesses a stability more than three times that of a standard lifeboat, and at the same time has practically the same angle of zero stability. Because of this great stability it is always safe for the passengers to sit on the seat instead of having to huddle in the bottom of a boat partly filled with water.

Lundin decked lifeboats are so much lower compared with standard life-



A VIEW SHOWING HOW TWO LUNDIN DECKED LIFEBOATS ARE NESTED ONE ABOVE THE OTHER. THE UPPER BOAT IS CUT AWAY TO SHOW THE CONSTRUCTION. NOTE THE SELF-BAILING INNER BOTTOM, THE SUBDIVISION BY BULKHEADS AND THE STEEL SHEATHED BALSA FENDERS



## Diversified Cargoes— *and constant shipping activity*

The territory immediately surrounding Port Newark leads all the rest of the United States in the production of coal, iron, steel, leather, woolens, paper, cotton goods, shoes, silks, small tools, india rubber goods, canned foods, jewelry, hardware, textiles, coke, slate, lime, cement and tobacco products. There is scarcely a place on the face of the earth where some of these goods do not eventually find their way.

Every month, more and more of these diversified cargoes are being shipped through the scientifically planned, lighterage-free port which the City of Newark has developed at the western end of New York Harbor, because at Port Newark there is no expensive, time-wasting lighterage or rehandling to add to the transportation burden.

Port Newark has switching connections with seven trunk line railroads from the interior, so that loaded freight cars can be shunted right out on its docks alongside waiting steamers. It is the center of a network of motor highways thoroughly covering New England and the middle Atlantic states. It has more abundant storage space, both protected and open, than any other distributing center on the Atlantic seaboard. Its sheltered harbor, with a 31-ft. channel depth at mean low water, provides safe loading and navigating conditions in all weathers.

Cargoes are always available at Port Newark, and choice warehouse and terminal sites may still be obtained on very reasonable terms. Investigate now.

**THOS. L. RAYMOND-Mayor  
Newark**  
New Jersey

*Write for this book. It contains valuable information about Port Newark and the territory contiguous to it. It is well worth reading. Sent free on request.*



# P O R T   N E W A R K

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boats that two may be nested within the height of one old style boat. The flat bottom requires only very simple low chocking for the lower boat, and as mentioned above no chocking is required for the upper one. This plan of nesting, which is approved by the board of supervising inspectors, gives a very large boat capacity in proportion to deck space and to weight of equipment. In fact, the capacity of a single Lundin lifeboat is greater than that of a standard type open boat of equal

length. In nests of two, therefore, more than twice the number of passengers can be cared for in the same length of deck.

#### Value of Fenders

The fenders are made of balsa, the world's lightest wood, encysted for its protection against decay. They are covered with thin metal sheeting. Fastened to the boat by metal straps, they may easily be removed for painting the sides of the boat. These fenders serve to round out the shape of the boat and in addition to the

added stability and buoyancy which they give, they effectively prevent damage to the side of the lifeboat from blows against the ship's side. In a test made under the direction of the United States army transport service, a loaded Lundin lifeboat hanging in the davit falls was pulled well away from the side of the ship and allowed to swing back against it with tremendous force, yet no damage was done to the boat and only a slight abrasion of the fender occurred.

## Build Derrick Barge for Heavy Lifts

**O**NE of the first jobs that the new HAVISIDE DERRICK BARGE No. 4 was called upon to do, was lifting aboard the 75-ton tug boat HENRY PETERSON 7 which had sunk at its moorings in San Francisco bay. This derrick barge was built at the plant of the Pacific Coast Engineering Co., in Oakland, Calif., and is the largest of its kind on the Pacific coast. Constructed entirely of steel, approximately 500 tons of plates and shapes being required, it has a length of 125 feet overall, a depth of 12 feet and a 40-foot beam.

The A frame which supports the 106-foot steel boom weighs 45 tons and

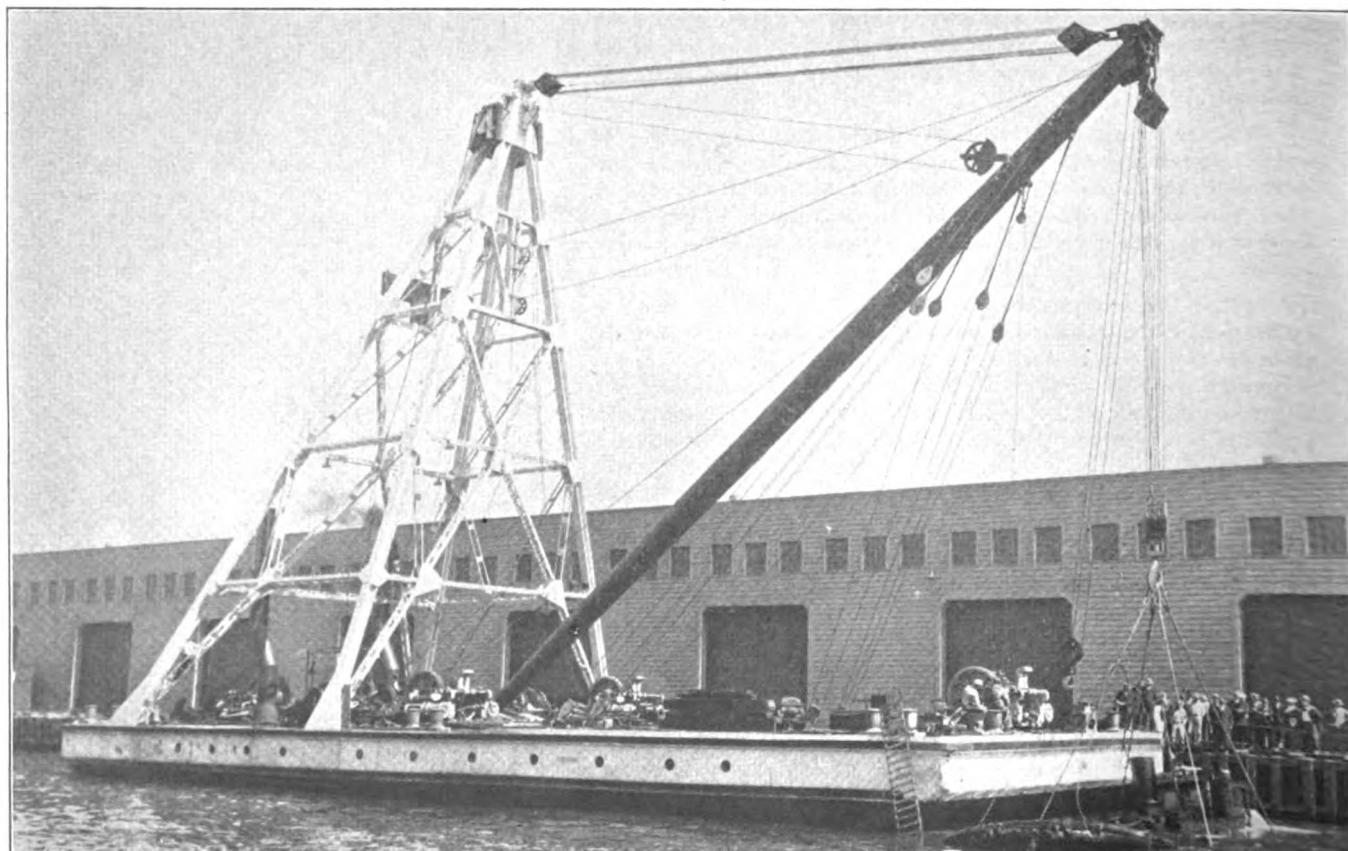
extends 81 feet above the deck. Each member of the A frame has a factor of safety of five. The boom itself weighs 30 tons and has a diameter of 41 inches at its greatest girth.

The construction of the hull embodies three longitudinal trusses and three water tight compartments. The ballast tanks have been placed fore and aft, there being six in all with a total capacity of 520 tons of water. The steam plant, also located below decks, consists of two Scotch marine boilers built by the Eureka Boilers Works of San Francisco.

Other equipment consists of a hoisting and swinging engine manu-

factured by the American Hoist & Derrick Co., St. Paul, Minn., four 14 inches by 14 inches double cylinder steam towing engines, two steam anchor windlasses, pumps and all the latest improved hoisting and wrecking gear.

Quarters for the crew together with fuel and water tanks and a complete lighting unit are located below deck. The derrick is capable of lifting and swinging 100 tons with the boom at an angle of 45 degrees and at this slant the block and falls have a clearance of 36 feet. The barge is owned by the Haviside Co. of San Francisco. It is now in active service.



HAVISIDE DERRICK BARGE NO. 4 RAISING THE 75-TON TUG BOAT HENRY PETERSEN 7 ALONGSIDE PIER IN SAN FRANCISCO—SHOWS IN REMARKABLE DETAIL HOW THE BARGE IS RIGGED FOR SUCH A HEAVY LIFT

**The Aloha—and AMF Pumps**

COMMODORE Arthur Curtis James' beautiful yacht "Aloha", (illustrated above) with her glorious spread of canvas, reminiscent of earlier days—is nevertheless the most modern and luxurious of modern pleasure-craft. She is now being reconditioned and converted from steam to Diesel Drive at the yards of the Staten Island Ship Building Co., under the direction of Tams & King, naval architects and is being AMF Pump equipped from stem to stern. Complete AMF Pump equipment includes the following system:

Fresh Water, Fuel Oil, Lubricating Oil, Hot Water, Drinking Water, Salt Water, Ice Machine, Evaporator, Boiler Feed and Kerosene Pumps.

American Machine & Foundry Co.  
5520 Second Avenue  
Brooklyn, N.Y.

All Bronze, Bronze-fitted or Cast Iron

A Type for every Ship Afloat

AMF Motor Driven Capstan

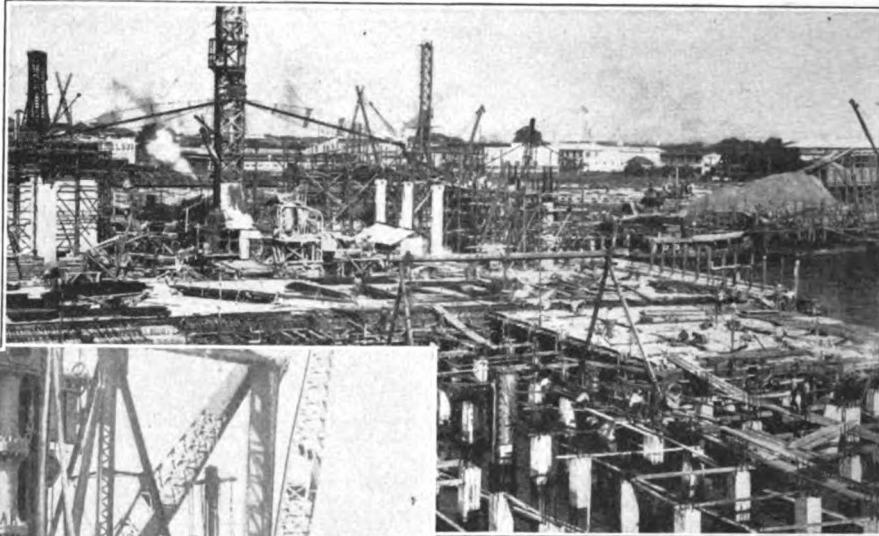
AMF Hand Pump

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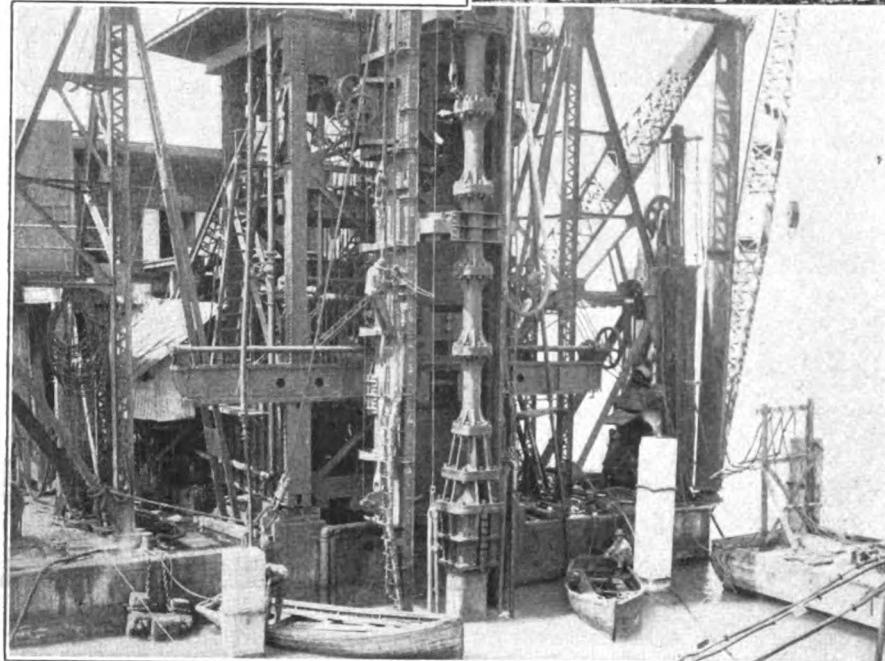
## Despatch at Manila

(Continued from Page 29)

cap was placed by means of cast iron followers and the pile and cap were then united by forcing grout under pressure into the space between cap and pile. For driving these huge piles, it was necessary to construct the largest and most powerful floating pile driver ever built. It was also necessary to provide special field



GENERAL VIEW OF EARLY CONSTRUCTION WORK ON PIER NO. 7



FRONT END VIEW OF THE HUGE FLOATING PILE DRIVER "MAMMOTH" WHICH WAS USED TO DRIVE THE REINFORCED CONCRETE PILES OF PIER NO. 7

equipment for casting, lifting and transporting the piles to the floating pile driver.

### Reinforced Concrete Used

The floor, walls and columns are all of reinforced concrete. The roof over the central cargo portion is of heavy galvanized iron supported by steel trusses of wide span, these trusses also serve as support for the interior overhead travelling electric cargo cranes. The span between the supporting columns is 96 feet, thereby rendering a very wide clear floor space the entire length of the pier for ease in handling and stowing cargo. Between the columns and the walls on each side are side cargo bays, each 32 feet wide and also served by overhead travelling electric cranes in the same manner as the center bay. The pier has an outside uncovered cargo apron 36 feet wide extending the entire length of the pier on each side and across the sea end. The apron is provided with flush-surface rails for the heavy lift gantry electric cranes, the passenger gangways and railroad cars. The fender system of mountain dungon, most resistent to marine

borders, is supported by and slides on heavily reinforced concrete brackets. Above and below each bracket are double spring coils in spring pockets, each set being capable of resisting a pressure of 50 tons. Heavy frame platform floating fenders are anchored outside of the pier fenders as buffers and rat guards. The pier head is of

reinforced concrete, the roof of the central portion being of concrete with copper sheathing. The wings of the pier head have three floors provided with offices and necessary conveniences. The central portion is one story and is for use as passenger waiting rooms, and for baggage. On each side of the pier head are outer wings which serve as freight entrances and exits.

A most convenient and up to date feature of the pier is the elaborate provision for the handling of passengers and visitors to and from vessels. Extending the entire length of the pier on each side, as a second floor construction, are cool and commodious passenger passageways 18 feet wide and connected directly with the pier head by stairways and elevators. Passengers and visitors leave and board vessels by overhead travelling gangways which connect ships' upper deck with the balcony of the passenger passageway. This feature of the pier for the handling of passengers and

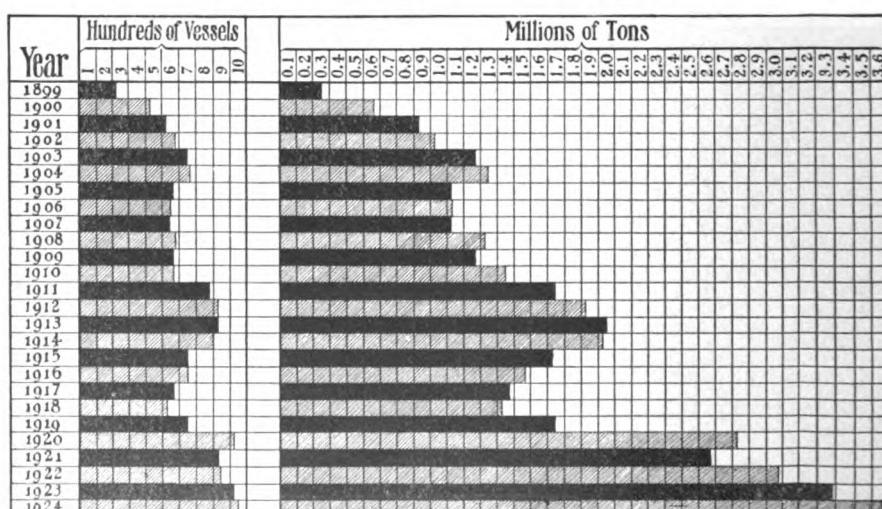
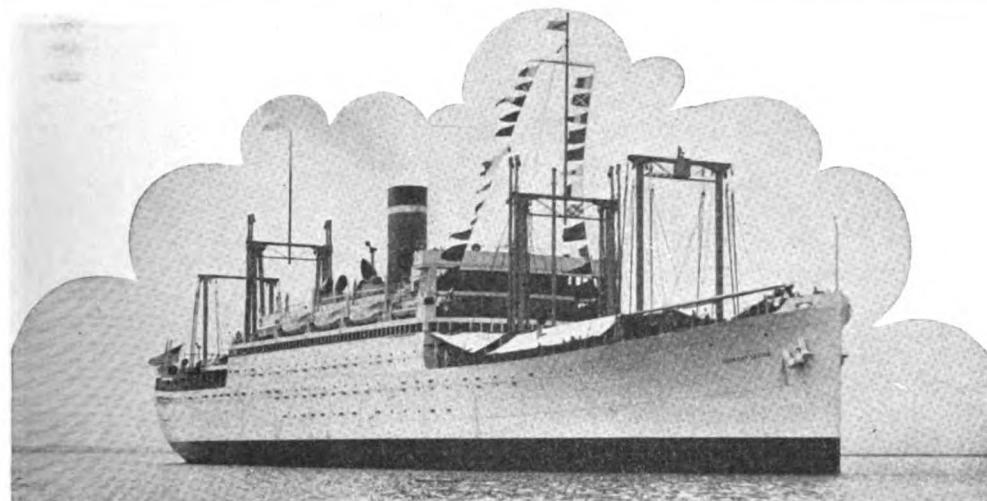


TABLE I—NUMBER OF FOREIGN VESSELS AND THEIR NET TONNAGE ENTERED AT THE PORT OF MANILA FROM 1899 TO 1924



16 — 535' Passenger Liners for United States Shipping Board. Built by the New York Shipbuilding Corporation, Bethlehem Shipbuilding Corporation, Ltd., Newport News Shipbuilding and Dry Dock Company.

## Shipowners, Shipbuilders, Naval Architects and Engineers

**W**HEN designing passenger, freight or other type of vessels, to insure the maximum dead-weight capacity with increased strength, together with reduced cost of maintenance, reduction in vibration, and improved ventilation, should give the "Isherwood" system or the "Isherwood Combination" system consideration.

For oil-tank ship construction The "BRACKETLESS-SYSTEM" eliminates bulkhead brackets—eliminates bulkhead leakage—greatly simplifies construction—greatly reduces cost of upkeep and cost of damage repairs. Substantially increases the longitudinal strength beyond the well-tried "Isherwood system."

For further particulars apply to

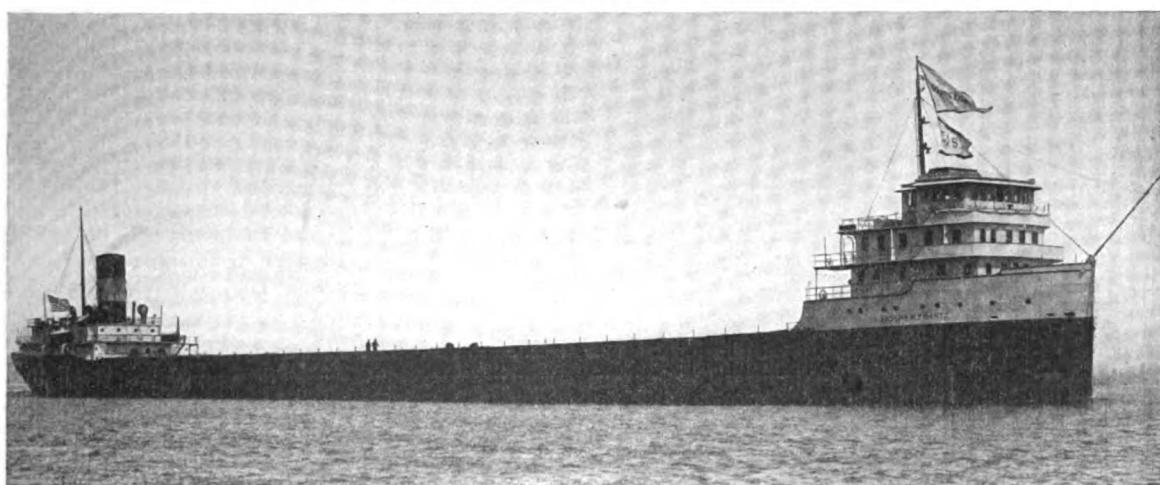
17 BATTERY PLACE  
NEW YORK

**SIR JOSEPH W. ISHERWOOD, Bt.**

4 LLOYDS AVENUE  
LONDON, E. C. 3

## THE BABCOCK & WILCOX CO.

*Manufacturers of Marine Water Tube Boilers Since 1895*



Steamer "JOSEPH H. FRANTZ", The Columbia Steamship Company

Equipped with  
**Babcock & Wilcox Water Tube Boilers and Superheaters**

**THE BABCOCK & WILCOX CO.**

Marine Department  
85 LIBERTY STREET, NEW YORK

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visitors to and from vessels is a very great convenience and it insures absolute freedom in handling cargo, both on the pier apron and within the cargo shed, as well as safety to passengers and visitors. The walls, floors and ceilings are of reinforced concrete, the floors and roofs being tiled. The outer walls are provided with numerous windows with counter-weighted

tem over the entire floor space. The pier is also provided with electric floor tractors, trucks and trailers, and the usual hand truck equipment. All of the piers of the port are provided with fuel oil and water pipe connections.

In conclusion, it may be affirmed that pier No. 7, is, without doubt, one of the very best ocean terminals in

United States to west coast ports of South America.

LAKE FLAGSTAFF, lake type cargo, 4145 deadweight tons, deep draft, built by McDougall-Duluth Co. in 1919, to Lykes Bros. Steamship Co., Inc., New Orleans, for \$29,000.

PYTHON, lake type cargo, 3100 deadweight tons, built by the Manitowoc Shipbuilding Corp. in 1919, to Asa F. Davison, for \$36,000. This vessel is the last in a group of eleven vessels of her particular type.

DIO, ocean cargo vessel, of 7564 deadweight tons, built by the Downey Shipbuilding Corp. in May 1919, to Finkbine Guild Transportation Co. for the sum of \$137,000. The DIO is an oil burner and is equipped with three Scotch boilers and a triple expansion engine 2250 indicated horsepower.

## World Markets

POLCEVERA, double deck steamship, 14,009 deadweight tons, 9232 gross tons, for £35,000 to Norwegian owners.

RUBENS, single deck steamship, 3200 deadweight tons, 1937 gross tons, for about £27,500 to Trelleborg's Angfartygs Nyd Aktiebol, Trelleborg.

COVET (renamed BOMARSUND), double deck steamship, 7000 deadweight tons, 4328 gross tons, for about £19,250 to A. B. Naxos Prince, Helsingfors.

DIPHYRS, single deck steamship, 4970 deadweight tons, 2795 gross tons, for about £15,000 to Greek buyers.

TRYMACHUS, double deck steamship, 8200 deadweight tons, 4995 gross tons, for about £23,500 to Barburizza & Co., London, (for Jugoslavensko-Amerikaniska Plovibda).

MORTLAKE, single deck steamship, 5100 deadweight tons, 3175 gross tons, for about £8,250 to Greek buyers.

## Diesel - Electric Tugs for New York Central

A contract was recently awarded the Staten Island Shipbuilding Co. for the construction of two diesel electric driven single-screw steel tugboats for the N. Y. Central railroad. The bids were received by W. B. Pollock, manager of the marine department, last November. At the time the Staten Island Shipbuilding Co. submitted a figure of \$199,500 against a price of \$185,750 by the Atlantic Works, Boston. The promise on the part of the Staten Island yard of delivery within 7 months, compared with 12 months promised by the Atlantic Works, caused the order to be given to the former.

The tugboats will be 108 feet long, 26 feet beam and 13 feet 3 inches deep. One will be equipped with two Ingersoll-Rand engines rated at 400 brake H. P. each at a speed of 265 revolutions and the other will be fitted with McIntosh & Seymour engines developing 400 brake H. P. each at 300 revolutions per minute. Each diesel engine will be direct connected to a General Electric direct current generator rated at 270 kilowatts and 240 volts. The propelling motor also furnished by the General Electric for each boat will be a 650 horsepower, 115 to 145 revolutions per minute, 480-volt, direct current motor of the shunt wound double armature type. This motor when connected in series with the two main generators will be capable of delivering 650 shaft horsepower to the propeller shaft at any speed from

TABLE II—FOREIGN COMMERCE OF THE PHILIPPINE ISLANDS

Direct Entrance and Clearance of Vessels at all Ports of Entry by Number and Nationality for the Years 1911 to 1914 and 1924

Entered	American	British	Japanese	German	All others	Total
1911 .....	14	456	115	107	214	906
1912 .....	17	430	132	137	161	877
1913 .....	31	400	157	109	114	811
1914 .....	30	409	147	94	83	763
1924 .....	260	387	143	54	210	1044

Cleared	American	British	Japanese	German	All others	Total
1911 .....	14	445	102	102	191	854
1912 .....	17	440	133	132	145	867
1913 .....	29	405	155	108	97	794
1914 .....	27	417	144	73	77	738
1924 .....	216	389	141	58	221	1020

steel sashes, and doorways with rolling steel doors. Outside and under the overhanging roofs are open balconies with removable steel hand rails.

### Latest Cargo Handling Equipment

The mechanical cargo handling equipment consists of 6 electric semi-portal gantry cranes of the jib type, each of 5 and 15 tons capacity, on

the world today with respect to utility of design, solid and permanent construction, and in completeness of equipment with superior and up to date cargo handling equipment. The wide apron permits of the greatest freedom in discharging and loading cargo. The exterior electric heavy-lift cranes permit the handling of general cargo, as well as heavy lifts, entirely

TABLE III—FOREIGN COMMERCE OF THE PHILIPPINE ISLANDS  
Values in Pesos,\* of Imports and Exports and Total Trade for 1924 According to Countries of Origin and Destination

	Value of imports from	Value of exports to	Value of total trade	Per cent
United States .....	120,797,206	194,627,805	315,425,011	64.81
Hawaii .....	1,866,281	761,556	2,627,837	.54
Porto Rico .....		50	50	...
Guam .....	896	304,846	305,242	.06
United Kingdom .....	11,168,448	18,857,640	30,026,088	6.17
Japan .....	17,087,685	12,543,910	29,631,595	6.08
Germany .....	4,225,273	5,298,903	9,524,176	1.96
All Others .....	61,876,006	38,295,115	99,171,121	20.88

\*One peso (Philippine) equals 50 cents in United States currency.

NOTE: China and the French East Indies did twice as much, and Spain slightly more business with the Philippines in 1924 than Germany did. Germany is listed because of its importance before the war and the rapid re-establishment of this trade

the apron; and 48 interior travelling electric overhead cranes of 2 and 3 tons capacity. The hoisting motor of each interior crane moves longitudinally on its own crane span (laterally with reference to the pier). These cranes are arranged in four systems of independent parallel tracks which run longitudinally with the pier, thus forming a perfect flexible crane sys-

independent and in lieu of ships' hoisting tackle when necessary or convenient. The complete system of interior overhead cranes permits of the greatest elasticity and rapidity in moving and stacking merchandise, and the loading of consignees' trucks. Hand labor is thus reduced to a minimum. The passenger conveniences are also unsurpassed.

## Recent Sales of Ships

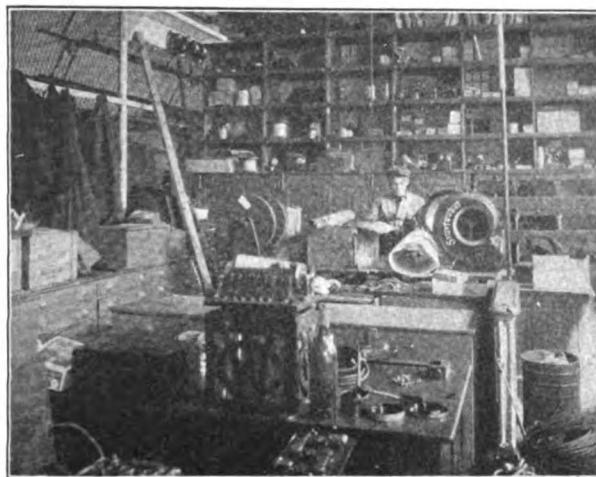
T. V. O'CONNOR, chairman of the United States shipping board, has announced the following sales of tonnage:

LAKE ELMHURST, lake type cargo, 4261 deadweight tons, for \$25,000 cash to the Ocean Steamship Co., Savannah, Ga. The purchaser agreed to improve the vessel by the installa-

tion of side ports and 'tween decks.

WESTERN ALLY, recently reported as one of the vessels sold, in connection with the American South African line will be substituted for by the EASTERN GLEN.

WEST KASSON, and WEST INSKIP, ocean cargo vessels, each of approximately 8750 deadweight tons, for \$111,225 total price to W. R. Grace and Co., New York. The purchaser intends to use these vessels in his present service operated from west coast ports of the



*The Atlantic Works, Ship Repair Plant, East Boston, Mass., finds Sturtevant Portable Ventilating Sets "just the thing" for supplying air to employees working in confined spaces on ships.*

## Keep One of These Utility Units in the Supply Room!

Sturtevant Portable Ventilating Sets should have a place in the supply room of every ship-building and ship repair plant.

These small compact units are always ready for service whenever the occasion arises and may be carried from the supply room and set to work on any part of the ship.

They are being used with great success to supply fresh air to confined spaces and are also used to exhaust foul air.

In such places as double bottom tanks where riveting or burning creates objectionable gases, these sets have proved a great asset.

The low operating cost, high efficiency, and sturdy construction, of Sturtevant Portable Ventilating Sets, make them especially desirable for all 'round use.

Send for our new bulletin on Portable Ventilating Sets.

### B. F. STURTEVANT COMPANY

Plants Located in

Hyde Park, Mass. Framingham, Mass. Sturtevant, Wis.  
Camden, N. J. Berkeley, Cal. Galt, Ontario



*Sales engineering offices and direct representatives in every commercial center of the world*

1832

*But I that lighten and revel and roll  
With the foam of a plunging sea  
No sign is mine of a breathing soul  
That God should pity me.*

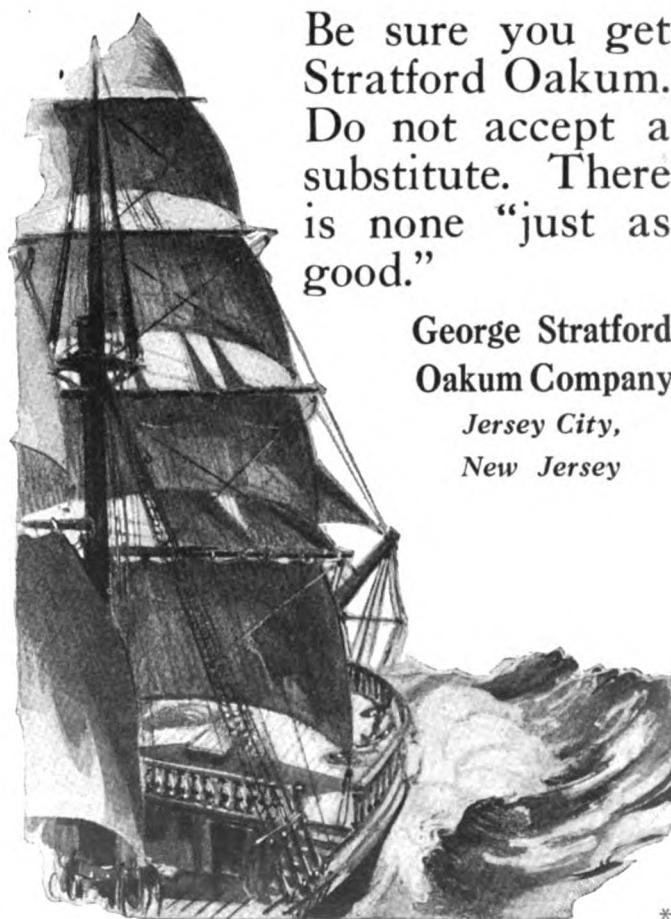
*Swinbourne.*

WHEN she rolls or pitches in heavy seas, if her seams are tight she'll ride it right and keep her cargo dry.

Old Timers, up and down the coast and 'cross the seas, know that

## STRATFORD OAKUM

right-caulked into the seams, will make the ship tight and keep the cargo dry. Nearly a century of service has proved its superiority and reliability.



Be sure you get Stratford Oakum. Do not accept a substitute. There is none "just as good."

George Stratford  
Oakum Company  
*Jersey City,  
New Jersey*

*Please mention MARINE REVIEW when writing to Advertisers*

115 to 145 revolutions per minute. Control of the boats will be from the pilot house and will be of the Ward-Leonard type.

### Sell Tanker on Stocks

The American Brown Boveri Electric Corp. which recently organized to take over the plant of the New York Shipbuilding Corp. at Camden, N. J., has sold a 13,500 ton steel tanker to the Gulf Refining Co., at a sales price estimated to be between \$1,400,000 and \$1,500,000. The tanker which has been under construction at Camden for builders account is to be launched about March 15 and is up to the present the largest American built diesel ship.

### Manitowoc Gets Order

Manitowoc Ship Building Corp., Manitowoc, Wis., has received the contract to build a new \$400,000 steel freighter to be named the DANIEL McCOOL, for the Newaygo Portland Cement Co., Newaygo, Mich., which is issuing bonds in that sum to cover the cost of the vessel. The McCool will be employed principally in carrying cement across and around the Great Lakes. The Manitowoc Portland Cement Co., established about two years ago, is closely identified with the Newaygo company.

### N. Y. Central Orders

Four carfloats have been ordered from the American Brown Boveri Electric Corp. Ten Ellis Channel system, steel hull, covered barges have been ordered from the Atlantic Works, Boston.

### Launch Bulk Freighter

The bulk freighter SAMUEL MATHER, sister vessel to the COL. JAMES PICKANDS, under construction by the American Shipbuilding Co. at the Lorain plant for the Interlake Steamship Co., was launched Feb. 13, 1926 at Lorain, O. It is expected that both of these vessels (the PICKANDS was launched Jan. 16, 1926) will be completed and ready for service by the opening of navigation this spring.

The main office of the Griscom-Russell Co., manufacturers of evaporators, water heaters, oil and water coolers and steam specialties, has been removed to 285 Madison avenue, N. Y.

The S. S. LEVIATHAN entered drydock at South Boston late in January for her semi-annual overhauling. She was expected to stay two weeks.

### Ask Bids for Building Two Large Ships

The Southern Pacific Steamship Co. has sent out specifications with request for bids for a new passenger and cargo vessel which it is understood will be 445 feet long, by 60 feet beam and 37 feet deep. The vessel is to have turbines and reduction gears and water tube boilers, burning oil.

Gibbs Bros. Inc., naval architects, 1 Broadway, New York, have sent out specifications with request for bids for vessel for the Inter-Island Steamship Co., Hawaii. This vessel is to be 400 feet long by 60 feet beam by 20 feet deep, and it is understood will be equipped with twin screw triple expansion engines and Scotch boilers.

The Nantasket Beach Steamboat Co. reports net earnings for the year ended Dec. 31, 1925 of \$84,139, or \$8.41 per share on the \$1,000,000 of stock outstanding. These earnings compare with \$10.30 a share in 1924; \$6.05 in 1923; \$8.60 in 1922 and \$9.20 in 1921.

### Positions Open

The United States civil service commission has announced the following open competitive examinations: JUNIOR ENGINEER—To fill vacancies in various branches in government service throughout the United States. The entrance salary is \$1860 per year with advance to \$2400 per year without change of assignment. A register of eligibles will be established in naval architecture and marine engineering, structural engineering (architectural), and structural engineering (bridge).

CHIEF MARINE ENGINEER—To fill vacancies in the United States coast and geodetic survey at \$170 to \$245 a month, plus \$1.25 a day for subsistence.

Full information and application blanks may be obtained from the United States civil service commission, Washington, or at the post office or custom house in any city.

ARMY TRANSPORT SERVICE—The secretary of the second United States civil service district, Customhouse building, New York City will receive until May 15, 1926 applications for positions of master, first officer, second officer, third officer, fourth officer, chief engineer, first assistant engineer, second assistant engineer, third assistant engineer, fourth assistant engineer, deck engineman, second-class refrigeration engineman, chief steward, second steward, third steward, fourth steward, stewardess, wheelman, boats-

wain, radio operator, carpenter, electrician, plumber, machinist, and boiler maker, for service on ships of the army transport service sailing from the port of New York.

### Giant French Liner To Be Launched

On March 14, the Penhoet Shipbuilding Works, at St. Nazaire, France, expect to launch one of the world's largest liners for the French Line. The name of this giant liner will be either VERDUN or VERSAILLES. Several thousand workmen are now engaged in constructing the vessel. She will be 240 meters (787 feet) long, 28 meters, (91 feet 10 inches) wide and 18 meters, (59 feet) in depth. The engines will 45,000 horsepower and a speed of 23 knots is expected in service. There will be passenger accommodation for 1200 first and second class and 600 third class. The crew will number 500.

### Radio Direction Finder Proves Useful

The radio direction finder, that instrument which guides Lake vesels safely through snowstorms, fog and smoke, to harbor and river entrances, has become almost indispensable on the Henry Ford boats and the Boland & Cornelius fleets. The lighthouse service at Buffalo and Detroit have equipped their tenders with this instrument also. The Hutchinson and the Standard Oil of Indiana fleets have also recently decided to equip their vessels with the Kolster radio direction finder.

This instrument has not only been proven to allow ships to pass one another safely in dense fog but also gets them into port ahead of ships not similarly equipped. The ship masters and steamship company officials are being offered an excellent opportunity of getting first hand information on this set by visiting the demonstration of the Kolster direction finder in room 678 of the Rockefeller building, Cleveland, or at the Sperry Gyro school at Brooklyn. Experts show just how the instrument may be used to enter a harbor in fog, locate a ship's exact position or pass another vessel with perfect safety during fogs or snowstorms.

The establishment of seven radio beacon stations, by the lighthouse service, along the routes from Buffalo to Duluth has made navigation safer and faster on the Lakes, in the case of ships so equipped, than ever before in the history of shipping.

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in the Largest  
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*The ideal babbitt-metal* for heavy pressure bearings, crank pins, slides and thrust bearings in all types of marine engines.

We guarantee our metals to be made 100% of virgin raw materials of the highest grades at all times.

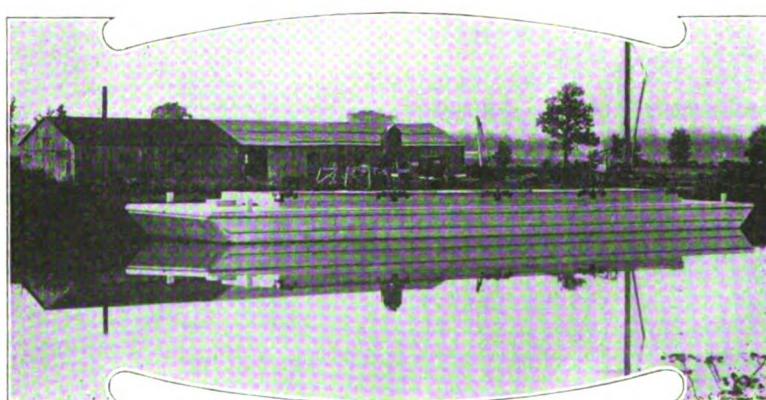
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SOLE MANUFACTURERS**

**50 Cliff Street**

**New York City**

## Channel Steel—World's Strongest Barges

*Channel steel hopper dump scow, 125 cubic yards capacity—constructed for the State of New York.*



*Built by*  
**Channel Steel Barge Company, Rome, N. Y.**

*Pioneers in the building of CHANNEL STEEL HULLS*

Designed and Patented by Louis Henley, Rome, N. Y., sole owner of the United States and Canadian Patents, by whom designs will be furnished and builders licensed.

**W. G. Bartenfeld, Great Lakes Representative, Lorain, Ohio**

**Channel Steel Barge Co., Rome, N. Y.**

*Please mention MARINE REVIEW when writing to Advertisers*

## Cargoes Reduced

(Continued from Page 24)

row that the death of William Livingstone, president of the Lake Carriers' association since 1902, has to be recorded in this report, he having passed away on the afternoon of Saturday, Oct. 17. The great things he conceived and carried out in the interest of safe navigation and for the development of the commerce of the Great Lakes are so many and so well known that they need not be enumerated on this page. Identified with Great Lakes traffic for more than 60 years his wide vision and keen foresight years ago prepared the foundation for the vast commerce that now passes up and down the lakes.

"At a special meeting of the board of directors held on Nov. 18, J. S. Ashley, who had been vice president since 1917, was elected president of the association, and L. C. Sabin, for many years superintending engineer of the St. Marys Falls canals, was elected vice president in charge of improvements of channels, aids to navigation and kindred matters. H. K. Oakes, vice president of the Bethlehem Transportation Corp. and of the Franklin Steamship Co. was elected to fill the vacancy in the executive committee.

"It is also regretfully announced that on Nov. 23, 1925, Mr. Harvey D. Goulder, general counsel of the Lake Carriers' association since its birth, for the second time within the course of a year, asked that he be relieved of his duties. His resignation was reluctantly accepted. Harvey D. Goulder has been succeeded as general counsel by the Hon. Newton D. Baker, former mayor of Cleveland and secretary of war during America's participation in the World war.

"Although there were periods when violent gales and dense fogs were a menace to navigation, the season of 1925 closed without there having been a single disaster to any vessel in the membership of the Lake Carriers' association, or a single life lost from any of its ships through shipwreck. So far as contemporary owners are concerned the same favorable report is made. There were no major losses on any of the lakes, indeed the total tonnage loss, amounting to a bare 1841 gross registered tons, undoubtedly was the least in all history. The season's tonnage losses within the association resulted from sales and remeasurement and amounted to 16,917 registered tons. On the other hand increases were about the most notable in the life of the association, having consisted of seven new

bulk freighters that are the last word in lake shipbuilding practice. The additions give the association a net gain of four steamers and of 40,446 gross registered tons. The membership as of Jan. 1, 1926, consists of 423 ships, all steel hulls, of a total of 2,223,143 gross registered tons.

"Weather conditions were so propitious that the locks at the Sault were opened on April 9 to a Canadian steamer upbound from Georgian bay. That day, too, five association steamers cleared from Toledo with coal for Lake Michigan. The Straits of Mackinac were opened on April 10. By the fifteenth, the date of official opening of navigation, vessels had cleared from Buffalo for the head of the lakes, the grain fleet had gotten through the ice and out of Fort William, ore was moving from Duluth and the steamer HYDRUS

J. L. CRANE, 548 registered tons, went down off Crisp point. In this disaster, the only shipwreck of the year on the upper lakes, all of her crew were lost.

"Ore contracts having been so well carried out, the loading docks started to close down on Nov. 20 and on the night before Thanksgiving day, all the ore docks on Lake Superior were through for the season with the exception of one at Marquette where the steamer J. L. REISS took on the only cargo loaded in December and delivered it at Fairport on Dec. 5.

"A tremendous amount of grain moved out of Fort William and Port Arthur during the final days of navigation. Shipments for the week ending Nov. 28 amounted to 24 million bushels and two days later, when regular insurance expired at midnight, 20 American and 15 Canadian

AVERAGE STAY IN PORT, VESSELS OF THE PITTSBURGH S. S. CO.

	Year 1921 Hrs. Min.	Year 1922 Hrs. Min.	Year 1923 Hrs. Min.	Year 1924 Hrs. Min.	Year 1925 Hrs. Min.
Average stay in lower lake ports	20 54	23 32	17 48	21 17	18 14
Average stay in upper lake ports	7 31	6 19	5 47	5 55	5 29
Average time spent in port receiving and discharging cargoes	28 25	29 51	23 30	27 12	23 18
Average cargo carried	10,147	8,402	8,122	5,453	7,439
Largest cargo carried	12,796	12,370	13,187	12,504	12,335
Fastest loading record	12,382	11,007	10,706	6,529	7,382
		1 hr.	1 hr.		
Rate of fastest loading record per hour	45,024	35 min.	30 min.	45 min.	50 min.
		6,977	7,187	8,700	8,850

from Escanaba had arrived at South Chicago with the season's first ore cargo. On April 18 there were steamship arrivals at Buffalo with grain from Duluth. The first ore arrived in Lake Erie on April 19. For the first time in several years the fleet was not hampered by recurring freezing temperatures, or held up by ice fields.

"Warm, calm and serene as the spring and summer season of navigation had been, the fall season was the coldest and most tempestuous of more than a decade. In the season's change summer went into winter in almost a night. There was no fall season. On Oct. 28 the lake region was blanketed with snow. The temperature at Duluth dropped to 16. Two days later the thermometer was down to 8 at Duluth and was at zero on the Minnesota iron ranges. Vessels that came into the locks at the Sault were coated with ice and under these severe navigating conditions vessels were getting only 2 and 2½ cents a bushel for grain from the head of Lake Superior to Buffalo. On Nov. 5 and 6 the upper lakes were swept by a heavy gale, with extreme cold and blinding snow. On Lake Superior the storm would have been devastating to any craft save the staunchest steel ships. It was in this tempest that the lumber barge

grain laden steamers passed out under Thunder cape. The grain trade continued feverishly during the periods of extra insurance. Rates for cargoes to be delivered went to 8 cents. Storage rates went to 8½ cents, and in one instance 9 cents a bushel was paid to the steamer THOMAS BRITT, storage, Fairport. Steamers F. B. SQUIRE and GLENSHEE, which were the last to clear from Fort William, came down Lake Superior in the night of Dec. 16 in near zero temperature. The second of the Sault canals gives grain shipments from Dec. 1 to 17, inclusive, as 52, any year since 1915.

"In the accompanying table giving the average stay in port, the figures reveal the past season's experience of the fleet of the Pittsburgh Steamship Co., and are fairly representative of the experiences of other fleets in the lake trade. In 1925 this fleet which has capacity for moving 792,500 gross tons of ore on a trip at normal draft, had the lowest average cargo—7839 gross tons—of any year since 1915.

"The average cargo loss from 1924 was 614 gross tons and the average loss in comparison with 1921 was no less than 2308 tons. The largest cargo of ore carried in 1925 by any boat in the lake trade was the smallest maximum of any year since 1915."

# Dunn Stockless Anchors

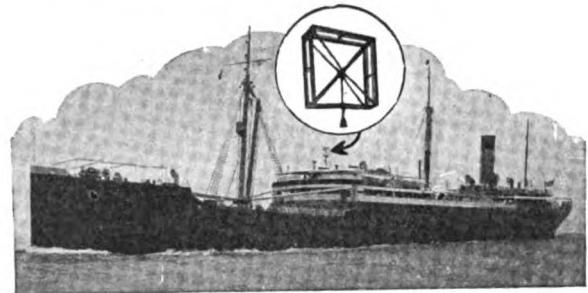


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STEEL FOUNDRIES**

NEW YORK

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*The Matson Steamer Manoa is one of the nine vessels of this fleet equipped with the Kolster Radio Compass*

**S A F E !**  
**With a Kolster Radio Compass!**

Nine vessels of the Matson Navigation Company are equipped with the Kolster Radio Compass—SAFE—from the dangers of fog or misty weather.

Any one of the vessels of this fleet can, with the aid of the Kolster Radio Compass make port without delay during a dense fog or periods of low visibility—OR—can pass other vessels at sea during stormy or foggy weather. SAFE!

Over eighty million dollars in ships—on the seven seas — under fifteen house flags — are protected by the Kolster Radio Compass. Have your vessels this protection?

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Japan-China Representatives:  
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## British Are Doing

(Continued from Page 31)

CAMMELL LAIRD are extending and remodelling their shipbuilding yards on the Birkenhead side of the Mersey at a cost of £150,000. The present workshops are to be scrapped and replaced by works capable of building ships 500 feet long, thus meeting competition on the Clyde. Five ships up to 350 feet are already on order and 2000 more men will be employed.

Cammell Laird on August 31 launched the OXTON, the second of

two twin-screw vehicle steamers built for the Birkenhead Corporation for the Mersey service between Woodside and Liverpool. The vessel is 150 feet long and is designed for a speed of 11 knots.

\* \* \*

SWAN HUNTER & WIGHAM RICHARDSON have been instructed to build at their Wallsend on Tyne shipyard two twin screw motor vessels for the service between Great Britain, Australia and New Zealand for the Commonwealth and Dominion Line. They are practically repeats of the Port-Hobart built last year by the same firm for

the same owners. They will be 467 feet in length, 60 feet in breadth, 31 feet in depth, having a dead-weight of 11,600 tons, and a speed of 14 knots when fully loaded. The ships are intended for the carriage of fruit, dairy produce and frozen meat, but will have accommodation for a small number of passengers. One vessel will have opposed piston internal combustion engines to be supplied by William Doxford & Sons, Sunderland and the other Sulzer engines furnished by the Wallsend Slipway & Engineering Co., Wallsend on Tyne. Another similar vessel is likely to be ordered.

# Ocean Freight Rates

Per 100 Pounds Unless Otherwise Stated

Quotations Corrected to Feb. 18, 1926 on Future Loadings

NOTE: FREIGHT RATES STEADY WITH BUSINESS FAIR

New York		Grain	Provisions	Cotton (H. D.)	Flour	General cargo cu. ft.	100 lbs.	††Finished steel	Freight Offered	REMARKS	From North Pacific	Lumber
Liverpool.....	2s 0d	\$0.50		\$0.30	0.20	\$0.40	\$0.75	\$7.00T	Spotty	San Francisco.....	\$5.00	
London.....	2s 0d	0.50		....	0.20	0.40	0.75	7.00T	Spotty	South California.....	5.00 to 6.00	
Oslo.....	\$0.20	0.45		0.50	0.27	0.42½	0.85	7.00T	Good	Hawaiian Islands.....	10.00 to 12.00	
Copenhagen...	0.20	0.45		0.40	0.26	0.42½	0.85	7.00T	Good	New Zealand.....	16.00 to 18.00	
Hamburg.....	0.12	0.35		0.35	0.20	0.37½	0.75	8.00T	Good	Sydney.....	13.50 to 14.00	
Bremen.....	0.10 to 0.12	0.35		0.40	0.20	0.37½	0.75	8.00T	Fair	Melbourne-Adelaide.....	13.50 to 14.00	
Rotterdam and Amsterdam....	0.12	0.32½		0.45	0.20	0.35	0.70	7.50T	Fair	Oriental Ports.....	11.00 to 12.00	
Antwerp.....	0.10	0.32½		0.35	0.20	0.35	0.70	7.50T	Fair	Oriental Ports (logs)....	15.00 to 17.00	
Havre.....	0.14	0.50		0.35	0.27½	0.40	0.75	8.00T	Slow	Peru-Chile.....	12.50 to 14.00	
Bordeaux.....	0.14	0.50		0.35	0.27½	0.40	0.75	8.00T	Slow	South Africa.....	17.00 to 18.00	
Barcelona.....	....	12.00T		0.30	10.00	—12.00T—	8.00 to 15.00T	—	Fair	Cuba.....	16.00	
Lisbon.....	0.20	0.65		0.40	7.00T	—20.00T—	7.00T	—	Fair	United Kingdom.....	75s to 90s	
Marseilles.....	0.15	0.55		0.30	6.00	—20.00T—	5.00T	—	Poor	United Kingdom (ties)...	70s to 80s	
Genoa.....	0.12	12.50		0.40	7.00	—20.00T—	10.00T	—	Good	Baltimore-Boston range.....	\$14.00 to 15.00	
Naples.....	0.12	12.50		0.40	7.00	—20.00T—	10.00T	—	Good	Florida Range.....	16.00 to 17.00	
Constantinople.	0.27	17.00T		0.75	0.40	—20.00T—	9.00T	—	Fair	Buenos Aires.....	14.00	
Alexandria....	....	17.00T		0.96	0.40	—20.00T—	9.00T	—	Fair	Flour and Wheat		
Algiers.....	....	0.75		0.50	0.40	—20.00T—	7.00T	—	Fair	U. K. and Continent (gross ton).....	30s to 33s 6d	
Dakar.....	....	15.00		....	14.00T	—21.00T—	10.50T	—	Good	Oriental Ports (net tons).....	\$4.25 to 4.75	
Capetown.....	9.00T	18.00		....	12.00T	—18.00T—	18.00T	—	Good			
Buenos Aires...	....	20.00T		....	....	—20.00T†	8.80T	—	Good			
**Rio de Janeiro	....	20.00 to 22.00T		....	8.80 to 8.00T	20.00 to 22.00T†	7.00 to 7.70T†	—	Good			
Pernambuco....	....	22.00T		....	9.00T	—22.00T—†	9.70T†	—	Good			
Havana.....	0.22½ to 0.27½*	0.42½*		....	0.22½*	0.61*	1.33*	10.20*	Very good			
Vera Cruz.....	0.25	0.40		0.45	0.25	0.52½	1.05	0.30 to 0.35	Very good			
Valparaiso....	....	1.07		....	0.70	0.45	0.80	10.00T	Very good			
San Francisco..	....	0.40 to 0.70		....	0.50 to 1.10	....	....	0.30 to 1.00	Good			
Sydney.....	....	18.00T		1.25	1.18T	18.00-24.00T	9.00-12.00T	—	Fair			
Calcutta.....	....	14.00T		0.70	10.00T	—16.00T—	10.00T	—	Fair			

T—Ton. †Per quarter of 480 lbs. †Landed. ††Heavy products limited in length. \*Extra charge for wharfage.

\*\*Plus \$1.00 surcharge on all rates to Rio de Janeiro on account of congestion

### Principal Rates To and From United Kingdom

	d		d		
Grain, River Plate to United Kingdom...	14	6	Pig iron, United Kingdom to New York or		
Coal, South Wales to Near East.....	12	3	Philadelphia .....	9	6
Coal, United Kingdom to Buenos Aires..	18	0	Iron ore, Bilbao to Cardiff.....	6	6
Manganese Ore, Poti to Philadelphia....	\$3.90		Iron ore, Huelva to Phila. or Balto.....	11	0

Note: Lighterage rates on fuel in New York reduced from 6½ to 5½c per barrel.

### Bunker Prices

#### At New York

	Coal alongside per ton	Fuel oil alongside per barrel	Diesel engine oil alongside per gallon
June 4, 1925	5.00(a.6.00)	1.86½	5.50c
July 20.....	4.00(a.6.00)	1.75	5.50
Aug. 17.....	5.00(a.6.00)	1.71½	5.50
Sept. 19.....	5.50(a.6.00)	1.71½	5.00
Oct. 17.....	5.00(a.6.00)	1.70½	5.00
Nov. 18.....	5.50(a.5.60)	1.70½	5.00
Dec. 18.....	5.60	1.70½	5.00
Jan. 2.....	5.50(a.6.25)	1.75(a.1.80)	5.25
Feb. 18, 1926	5.60(a.5.80)	1.80½	5.50

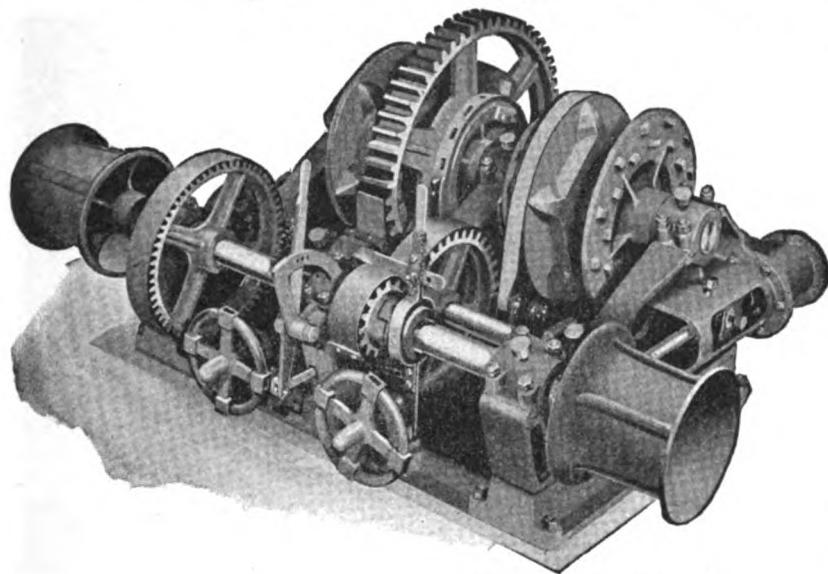
#### At Philadelphia

	Coa trim. in bunk per ton	Fuel oil alongside per barrel	Diesel oil alongside per gallon
June 4, 1925	4.00(a.5.50)	1.86½	5.50c
July 20.....	4.00(a.5.50)	1.65(a.1.81½)	5.15(a.5.45)
Aug. 17.....	5.00(a.5.80)	1.56(a.1.71½)	5.15(a.5.29)
Sept. 19.....	5.25(a.5.50)	1.55(a.1.61½)	5.00
Oct. 17.....	5.25(a.5.50)	1.71½(a.1.74½)	5.15(a.5.65)
Nov. 18.....	5.40(a.5.65)	1.71½(a.1.74½)	5.15(a.5.25)
Dec. 18.....	5.15(a.5.50)	1.71½(a.1.74½)	4.89(a.5.15)
Jan. 20.....	5.50(a.6.25)	1.71(a.1.77)	5.00(a.5.65)
Feb. 18, 1926	5.80	1.78(a.1.86½)	5.14(a.5.50)

#### Other Ports

Boston, coal, per ton...	\$7.14
Boston, oil, f. a. a. per barrel.....	\$1.79
Hampton Roads, coal, per ton, f.o.b., piers.....	5.75 f.o.b.
Feb. 9 — Cardiff, coal, per ton.....	13s 9d
London, coal, per ton.....	25s 0d
Antwerp, coal, per ton.....	21s 6d
Antwerp, Fuel oil, per ton.....	77s 6d
Antwerp, Diesel oil, per ton.....	97s 6d
British ports, Fuel oil.....	72s 6d
British ports, Diesel oil.....	87s 6d

# The "Superior" Spur Geared Windlass



**WE ALSO BUILD**

- Windlasses
- Steering Gears
- Capstans
- Gypseys
- Winches
- Hoisting Engines
- Swinging Engines
- Power Pawl Posts
- Dredge Deck Engines
- Anchor Hoists
- Scow Winding Gears
- Drill Frame Hoists
- Suction Pipe Hoists
- Steel and Wooden Derricks

**Manufacturers of**  
**Steam and Electrical Machinery**  
**SUPERIOR IRON WORKS COMPANY**  
**SUPERIOR, WISCONSIN**

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DESIGNERS OF DRY DOCKS



8000 TON FLOATING DOCK  
CHARLESTON DRY DOCK &  
MACHINE CO.  
CHARLESTON, S.C.

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## H. A. Watkins Appointed N. Y. Sales Manager

H. A. Watkins has been appointed metropolitan district sales manager with offices in the Pershing Square Building, New York City, for the Bridgeport Brass Co., of Bridgeport, Conn.

Mr. Watkins has had a wide ex-



H. A. WATKINS

perience in general industrial and utility development work. He was formerly superintendent of docks of the City of New York under the Mitchell administration, and served the United States as a major of engineers during the war.

The Superheater Co. of New York and Chicago recently elected M. Schiller, vice president in charge of accounts and purchases, and W. F. Jetter, treasurer and assistant secretary. Bard Browne was appointed assistant to vice president in charge of sales and service, and T. F. Morris, assistant secretary and assistant treasurer.

## May Build Two Liners

It is anticipated that the board will shortly request congress to authorize the board to build two large modern passenger vessels to be used to supplement the limited number of such vessels now under the American flag. Plans and specifications have recently been prepared for a passenger vessel of the highest type, to be 726 feet long, to have a speed of 20 knots, with capacity for carrying 1600 passengers, and with an esti-

mated displacement of 44,500 tons. Two vessels of this general type and kind will be constructed if congress will authorize the construction and appropriate the necessary funds.

## Bert E. Haney Resigns at Own Volition

The stormy petrel of the shipping board is out at last by his own volition. Bert E. Haney, Democrat, Oregon, who refused to give up his office as commissioner of the United States shipping board last August at the request of President Coolidge, finally ended the long standing shipping row by offering his resignation effective March 1. In his letter of resignation he said that conditions in the board had improved since Admiral Palmer's withdrawal and that American shippers were now being furnished substantially better service. Furthermore, foreign shipping, according to Mr. Haney's letter, is no longer gaining ground at the expense of the government fleet and the board has now reasserted its power with regional control definitely established.

Mr. Haney took office in July 1923 for a two year term which expired last summer. Since then he has served under a recess appointment which was later withdrawn by the President.

## Heads Becker S. S. Co.

Carmi A. Thompson, attorney and head of Tod-Stambaugh Co., Cleveland, iron ore interests, has been elected president of the Becker Steamship Co., that city, to succeed W. D. Becker.



CARMI A. THOMPSON

## W. F. James in Charge at Philadelphia

W. F. James has been appointed manager of the Philadelphia district of the Westinghouse Electric & Mfg. Co. succeeding H. H. Seabrook, who has been assigned to special duties. Announcement of the changes were made by E. D. Kilburn, vice president



W. F. JAMES

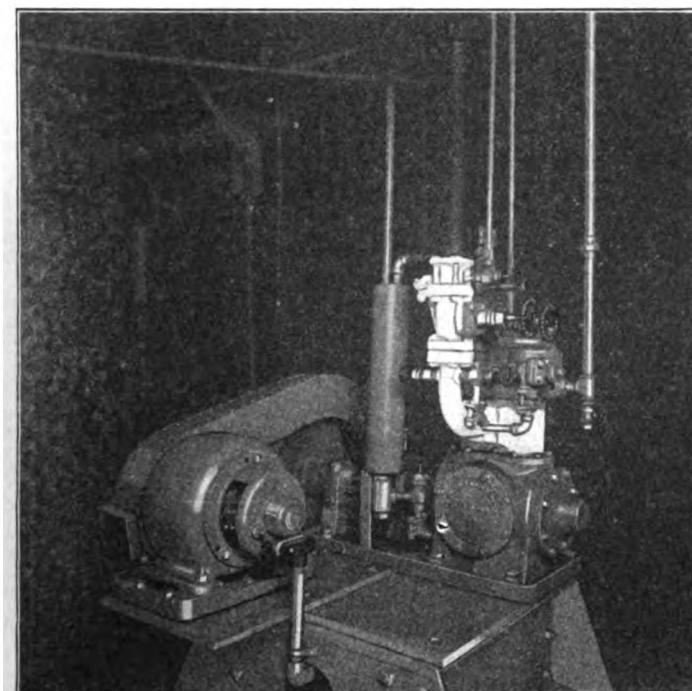
and general sales manager of the Westinghouse company.

Mr. James was born in Philadelphia in 1879. He received his early education in the Philadelphia public schools, graduating from high school in 1896. Upon graduation, he entered the employ of the Quaker City Electric Co. where he served his apprenticeship. During this period he obtained his technical education by means of private study, later becoming electrical designer and then superintendent of the Quaker City Electric Co. which position he held for five years.

He resigned, in 1909, to join the Philadelphia sales office of the Westinghouse Electric & Mfg. Co. He was engaged in general industrial sales work for the Westinghouse company until 1912 when he began to specialize in steel mill electrification. His experience with the company's marine propulsion activities during the war aided him in this special study. He was made manager of the industrial division in 1923, which position he held until his present appointment.

For many years, Mr. James has been active in the local sections of the American Institute of Electrical Engineers and the American Iron and Steel Electrical Engineers society.

# World's Record Breaking Carriers



Col. W. P. Schoonmaker  
W. P. Snyder, Jr.  
James McNaughton

H. K. Field  
Chas. M. Schwab  
J. H. Frantz

Are All Equipped With Steam  
or Electric Driven



Uniform Cold Temperatures Dry Atmosphere  
Simple Operation  
Refrigeration For Meat or Vegetable Rooms  
Drinking Water Ice Making Sets

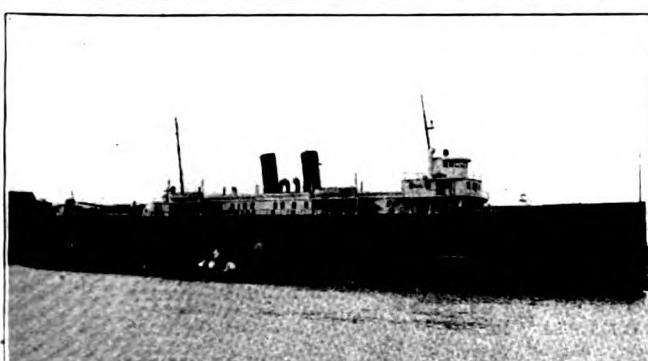
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Euth Lambrecht Co.  
3060 Michigan Ave.

BUFFALO  
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29 Illinois St.

## The Phoenix Ice Machine Company

Factory and Offices: 2711 Church Ave., CLEVELAND, OHIO 137 N. Erie St., TOLEDO, OHIO



### Heavy Duty Ships!

When a boat "shoves-off" from our docks it is fit for heavy duty. It is designed and built to weather hardship and stand the abuse of rough service.

Manitowoc has long been building ships of manifold variety. We have a well balanced engineering organization, good tool equipment, spacious docks, in fact all facilities for ship construction and vessel repairs. We are equipped to perform such service economically and quickly.

MANITOWOC SHIPBUILDING CORP.  
Manitowoc, Wisconsin

**MANITOWOC**

### DROP FORGED WELDLESS EYE BOLTS

ROLLED THREAD  
GALVANIZED OR PLAIN



1/2" DIAM. WITH EYE	1/8" INSIDE
5/8" "	7/8" "
3/4" "	1 1/8" "
1" "	1 1/2" "

#### QUICK SHIPMENT

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PITTSBURGH, PA.

ESTABLISHED 1863

Please mention MARINE REVIEW when writing to Advertisers

# Marine Business Statistics Condensed

## Record of Traffic at Principal American Ports for Past Year

### New York

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	407	1,671,761	463	1,883,094
December	431	1,706,900	510	2,022,775
November	473	1,902,745	488	1,896,587
October	450	1,920,797	530	2,229,801
September	449	1,960,366	505	2,117,563
August	469	1,889,239	493	1,933,228
July	457	1,813,338	647	2,130,581
June	521	2,177,995	507	2,103,914
May	435	1,820,544	538	2,216,561
April, 1925	434	1,796,849	528	2,093,444

### Philadelphia

(Including Chester, Wilmington and the whole Philadelphia port district)

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	76	206,081	52	136,040
December	83	194,283	53	142,885
November	83	216,604	44	116,468
October	74	193,534	49	128,906
September	85	211,019	51	113,257
August	84	197,743	65	146,144
July	96	241,244	57	181,400
June	107	260,756	67	165,940
May	87	209,866	63	155,359
April, 1925	102	243,546	67	182,335

### Boston

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	97	287,335	55	156,167
December	96	270,869	67	210,652
November	115	841,258	59	147,654
October	105	812,455	78	206,847
September	114	828,275	78	216,632
August	136	849,514	104	246,275
July	140	836,982	115	283,558
June	161	868,009	112	218,985
May	118	296,551	98	205,291
April, 1925	99	224,275	82	179,010

### Portland, Me.

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	26	78,508	27	81,917
December	31	85,651	29	75,072
November	25	35,616	23	33,194
October	17	27,630	20	34,668
September	19	86,082	22	45,258
August	16	87,391	17	36,191
July	23	48,916	23	54,903
June	26	37,668	23	38,892
May	23	42,242	27	47,648
April, 1925	24	53,326	30	86,338

### Providence

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	5	20,355	6	24,221
December	16	52,660	6	27,149
November	6	16,446	8	26,811
October	9	35,405	6	21,232
September	7	21,260	7	22,410
August	8	14,019	5	17,041
July	12	34,835	9	27,767
June	8	84,034	7	28,575
May	15	40,589	9	27,016
April, 1925	8	26,506	9	34,277

### Portland, Oreg.

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	22	84,722	26	97,068
December	23	86,143	40	144,392
November	28	108,796	37	140,784
October	26	98,371	41	144,397
September	28	103,812	41	158,098
August	16	62,202	23	81,712
July	15	56,181	23	79,132
June	19	64,684	26	85,839
May	11	47,728	20	77,847
April, 1925	17	68,951	19	80,425

### Baltimore

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	97	302,341	88	264,249
December	105	314,958	108	332,721
November	106	334,997	99	312,705
October	99	302,522	92	293,425
September	93	264,455	109	310,029
August	109	319,469	104	319,035
July	115	345,191	123	350,375
June	118	343,671	121	353,738
May	118	341,793	129	379,956
April, 1925	125	363,563	133	394,223

### New Orleans

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	241	659,776	243	652,209
December	273	750,625	279	764,022
November	261	645,709	232	629,728
October	252	729,058	276	789,419
September	218	655,367	248	680,446
August	257	675,405	253	664,064
July	265	673,711	262	648,474
June	268	679,277	249	609,807
May	256	666,503	216	724,621
April, 1925	266	692,569	283	727,156

### Norfolk and Newport News

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
January, 1926	26	69,958	96	256,019
December	24	57,907	100	279,570
November	27	78,573	81	254,439
October	26	51,328	91	248,017
September	39	94,940	85	237,623
August	70	183,064	122	348,475
July	61	163,764	131	347,756
June	81	221,318	152	433,953
May	63	159,186	140	376,657
April, 1925	32	84,936	112	308,744

### Houston

(Cargo tonnage)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
December, 1924	99	39,568	102	154,455
November	101	36,016	95	233,436
October	45	34,945	..	192,986
September	94	50,710	90	171,229
August	82	66,665	84	114,966
July	59	77,062	57	288,417
June	65	74,794	72	336,312
May	72	64,937	71	362,350
April	78	76,466	73	337,57
March, 1924	88	113,064	87	411,715

### Galveston

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage	No.	Net ships tonnage
October, 1925	43	98,168	96	302,581
September	33	95,954	72	225,194
August	28	80,524	41	183,058
July	36	100,359	52	141,316
June	47	120,428	57	177,647
May	46	114,702	53	151,098
April	47	107,223	60	171,863
March	55	147,303	75	228,187
February	56	140,065	90	277,751
January, 1925	67	188,781	110	387,882

### Key West

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No.	Net ships tonnage		

# MARINE DEPARTMENT of

## American Bridge Company

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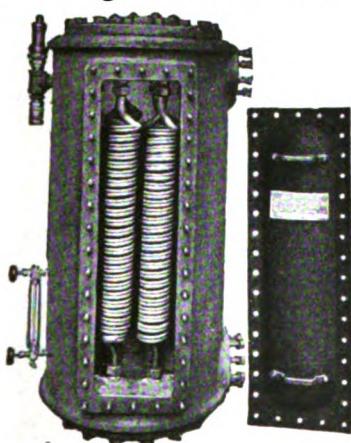
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Note how little space it occupies; how easily inspected; how each coil is shaped like a spring, preventing expansion strains on the joint.

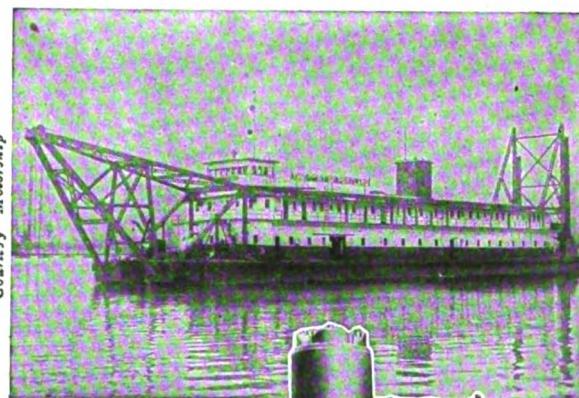
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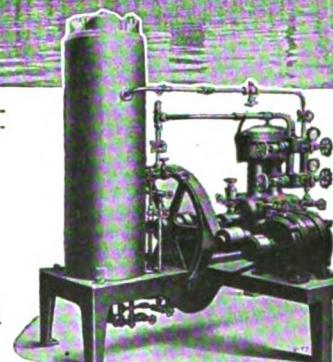
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# Late Flashes On Marine Disasters

Brief Summaries of Recent Maritime Casualties—  
A Record of Collisions, Wrecks, Fires and Losses

NAME	DATE	NATURE	PLACE	DAMAGE RESULTING	NAME	DATE	NATURE	PLACE	DAMAGE RESULTING
A. F. Bowman	Dec. 29	Fire	Fort William	Badly floated	Ingerfire Isonzo II	Dec. 22	Disabled	St. Michael's New York	Steering gear Propeller blade
Anderson	Dec. 14	Ashore	Bonaca	Floated	Ithaki	Dec. 10	Grounded	Grao	Floated
Artemisia	Dec. 16	Hvy. weather	Off Vancouver	Damaged	Jasson	Dec. 7	Hvy. weather	Black Sea	Machinery
Aconagua	Dec. 31	Ashore	Salinas	Floated	Import	Dec. 17	Collision	Gravesend	Not stated
Atlantic Coast	Jan. 2	Wrecked	Nr. Baracoa	Not stated	Inga Kunstmann	Dec. 17	Collision	Kiel Harbour	Sank
Anhitrite	Dec. 6	Aground	Leghorn	Floated	Inneroy	Dec. 21	Collision	Bremen	Stem
Airedale	Dec. 5	Aground	Isle Aux Coudres	Bottom	Iossifoglou	Dec. 21	Aground	St. Nazaire	Not stated
Araya Mendi	Dec. 10	Ashore	Almina Point	Sank	In-Eunu	Dec. 28	Ashore	Gallipoli	Not stated
Agula	Dec. 10	Aground	Peniche	Floated	James W. Howard	Dec. 14	Collision	Off Cape Lookout	Sank
Ashton	Dec. 12	Aground	Nr. Austruweel	Not stated	Julia Luckenbach	Dec. 21	Ashore	Half Moon Shoal	Floated
Anna	Dec. 14	Aground	Point Indio	Not stated	John Gibson	Dec. 1	Ashore	Par	Floated
Albert	Dec. 16	Collision	Gronsvund	Sank	Jarl	Dec. 7	Ashore	Refsnaes	Floated
Antonios Stathatos	Dec. 17	Fire	Rosario	Cargo	John Blumer	Dec. 17	Ashore	Erit	Raised
Archangelos	Dec. 17	Collision	Galatz Dock	Starboard side	Kovno	Dec. 1	Grounded	Brunsbuettelkoog	Floated
Alcide	Dec. 21	Aground	Nr. Penarth Pier	Floated	Kaprino	Dec. 8	Touched ground	Flinterenden	Leaking
Asa	Dec. 21	Ashore	Snaefellsnes	Total loss	Kaleen	Dec. 9	Aground	Off Sandy Hook	Floated
Antonia	Dec. 19	Collision	Bilbao	Sank	King Malcolm	Dec. 17	Collision	River Kelvin	Plates
Amble	Dec. 27	Stranded	Nr. Alnmouth	Not stated	Kosmo	Dec. 23	Collision	Lourenco Marques	Plates
Ataka Maru	Dec. 23	Ashore	Cape Zheodkov	Not stated	Kittiwake	Dec. 26	Aground	Milton Island	Floated
Aberdonian	Dec. 26	Collision	Aberdeen	Starboard side	Laird	Dec. 26	Disabled	Barry Roads	Sprank leak
Amandine	Dec. 21	Struck quay wall	Antwerp	Sprang leak	Lisbeth Cords	Dec. 7	Collision	Brunsbuettelkoog	Propeller
Ansaldo Terzo	Dec. 29	Stranded	Pelagosa Reef	Not stated	Landport	Dec. 9	Collision	Off Flamboro Hd.	Sank
Antje	Dec. 23	Collision	Hamburg	Plates	London	Dec. 17	Collision	Gravesend	Bow
Brandon	Dec. 14	Aground	Off Erie Basin	Floated	Lushby	Dec. 17	Ashore	Tory Island	Leaking
Begonia	Dec. 7	Stranded	So. Helsingborg	Not stated	Lady Cynthia	Dec. 28	Collision	Nr. Vancouver	Bows
Belgium Maru	Dec. 9	Stranded	Samana Bay	Not stated	Mary Langdon	Dec. 26	Ashore	Nr. East Chop	Floated
Bevero	Dec. 10	Sank	Gronsvund	Not stated	Marionga Mari	Dec. 7	Ashore	Piraeus Harbour	Floated
Brandon	Dec. 14	Aground	Off Erie Basin	Floated	Mercur	Dec. 9	Ashore	Husby	Total wreck
Broomfleet	Dec. 12	Collision	Ghent	Forepeak	Michael Kelly	Dec. 10	Disabled	Arklow	Leaking
Blythmoor	Dec. 14	Grounded	Point Indio	Floated	Merchant Prince	Dec. 14	Disabled	Algiers	Boiler
Berta	Dec. 13	Fire	Styrao	Total loss	Masaki Maru	Dec. 21	Hvy. snow-storm	Nr. Hakodate	Foundered
British Sovereign	Dec. 18	Collision	Not stated	Forepeak	Margit	Dec. 28	Collision	No. Tocopilla	Bows
Barcelona	Dec. 20	Ashore	Koolbrand	Floated	Mineola	Dec. 28	Collision	No. Tocopilla	Not stated
Canadian Settler	Dec. 14	Collision	River Thames	Damaged	Nautilus	Dec. 14	Fire	East River	Considerably
Comal	Dec. 14	Collision	New Orleans	Not stated	Nancy	Dec. 12	Aground	Squash Meadow Shoals	Floated
CIP	Dec. 19	Gale	Not stated	Lost rudder	Navaho	Dec. 18	Struck pier	Tilbury	Bows
City of Freeport	Dec. 22	Disabled	East of Cape Henry	Lost rudder	Niels Nielsen	Dec. 26	Disabled	San Francisco	Engine
Carlsholm	Dec. 26	Disabled	Not stated	Lost rudder	Neckar	Dec. 17	Ashore	Nr. Gluckstadt	Floated
Chillagoe	Dec. 8	Collision	Off Sidney Heads	Badly	Narval	Dec. 22	Stranded	Nr. Ostend	Floated
Capena	Dec. 9	Ashore	Hamburg	Floated	Odin	Nov. 24	Stranded	Nr. Skelleftea	Filled
Cape Ann	Dec. 10	Aground	South West Pass	Not stated	Ottoka	Dec. 11	Ashore	Nr. Silivri	Filled
Cevennes	Dec. 12	Collision	Ghent	Port side	Oceana	Dec. 28	Collision	Austruweel Roads	Damaged
Challenger	Dec. 17	Struck pier	Vancouver	Bow	Pasquale Romano	Nov. 30	Collided quay	Venice	Plates
Caterina	Dec. 17	Ashore	Channel Arbe	Not stated	Parnabya	Dec. 9	Disabled	Nr. East High-lands	Not stated
Curlew	Dec. 16	Ashore	San Blas Coast	Not stated	Puma	Dec. 11	Fire	Glasgow	Not stated
Catala	Dec. 22	Struck logs	Nr. Vancouver	Propeller	Pamir	Dec. 11	Ashore	San Carlos Island	Total loss
Chiyoada Maru	Dec. 21	Foundered	Off Hakodate	Not stated	P. L. A. No. 16	Dec. 16	Collision	Northfleet Hope	Stem
City of Baroda	Dec. 23	Aground	Nr. Luconias Shoal	Serious	Peter Hooft	Dec. 21	Fire	Nr. Nazaire	Considerable
Cowichan	Dec. 28	Collision	Nr. Vancouver	Sank	Pieter Corneliszoon Hooft	Dec. 21	Fire	Not stated	Considerable
Deerhound	Dec. 8	Collided pier-head	Boston	Stern and bow plates	Queen Alexandra	Dec. 24	Collision	Galleons Reach	Sank
Dakar Maru	Dec. 8	Grounded	River Scheldt	Floated	Robert B. Wallace	Dec. 10	Struck obstr.	Conneaut	Plates
Dora	Dec. 12	Stranded	Not stated	Leaking	Roanoke	Dec. 12	Disabled	Mobile	Engine
Danubian	Dec. 17	Collision	Galatz Dock	Damaged	Robert J. Beswick	Dec. 14	Collision	Off Fox Point	Sank
Dallington	Dec. 22	Ashore	Seville	Propeller	Rius Y Taulet	Dec. 16	Disabled	Moncofar	Lost prop.
Dinah Leetham	Dec. 22	Aground	Whitby Harbour	Not stated	Ryburn	Dec. 26	Collision	Rotterdam	Damaged
Dakar Maru	Dec. 20	Collision	Nr. Gluckstadt	Bows	Rijnland	Dec. 28	Ashore	Nr. Glyckstadt	Floated
Danmark	Dec. 22	Collision	Oslo	Slight	Sama	Dec. 11	Ashore	Falmouth Harbor	Floated
Edwin G. Farrar	Dec. 14	Collision	Off Long Branch	Badly	Scottish Borderer	Dec. 21	Aground	Port Kurrachee	Floated
El Siglo	Dec. 14	Collision	New Orleans	Rudder	Stureholm	Nov. 31	Touched ground	Lepso	Leaking
Elsa	Dec. 8	Collision	Off Haisboro	Damaged	Suva	Dec. 8	Collision	Off Sydney Heads	Badly
Esther Maria	Dec. 28	Aground	Hitarp	Not stated	San Patricio	Dec. 9	Grounded	Amsterdam	Floated
Fjalir	Dec. 7	Ashore	No. of Bergen	Extensively	Shannonmede	Dec. 9	Grounded	Paranagua	Floated
Foina	Dec. 17	Struck	Trondhjemsfjord	Tanks	Saga	Dec. 15	Ashore	Nr. Cuxhaven	Floated
Fredborg	Dec. 17	Struck sub-object	Nr. Halmstad	Propeller	Santa Cruz	Dec. 14	Aground	Kilometre 9	Floated
Fendris	Dec. 22	Struck wall	Hamburg	Stern	Surabaya Maru	Dec. 14	Fire	Macassar	Cargo
Goliath	Dec. 14	Capsized	Off Cape Fear	Sank	Serifos	Dec. 16	Collision	Piraeus	Not stated
Georgia	Dec. 14	Collision	Off Fox Point	Bow	Saint Blane	Dec. 17	Ice	Not stated	Prop. blades
Graafveld	Dec. 17	Disabled	Bermuda	Steering gear	Sambre Escout	Dec. 20	Collision	Antwerp Docks	Damaged
Grosholm	Dec. 19	Disabled	East of Ambrose Channel	Engines	Sinfred	Dec. 20	Aground	Gothland	Floated
Gibraltar	Dec. 10	Aground	New Point Comfort	Floated	Tricolour	Nov. 30	Ashore	Cimrishamn	Total wreck
Grelwen	Dec. 14	Fire	St. Thomas	Not stated	Tilthorn	Dec. 14	Aground	Pensacola	Floated
Gernimal	Dec. 6	Collision	Naples	Not stated	Tsuruga Maru	Dec. 17	Ashore	Fehmarn Island	Floated
Genoveva Fierro	Dec. 19	Collision	Bilbao	Not stated	Tomotoku Maru	Dec. 21	Hvy. snow-storm	Hakodate	Foundered
Gerda	Dec. 19	Ashore	Lower Elbe	Floated	Valemore	Dec. 14	Collision	River Thames	Damaged
Glenpool	Dec. 10	Ashore	Tampico Bar	Not stated	Vedette	Dec. 13	Stranded	Cape Engano	Filled
H. T. Harper	Dec. 26	Disabled	San Francisco	Rudder; steering gear	West Ira	Dec. 16	Aground	Nr. Maasslius	Floated
Henry Lutgens	Dec. 1	Ashore	Cuxhaven	Floated	Wilbert S. Bartlett	Dec. 19	Ashore	West Palm Beach	Bottom-filled
Headlight	Dec. 11	Fire	Larne	Not stated	Yarra	Dec. 26	Collision	Rotterdam	Damaged
Hermann Burmeister	Dec. 14	Aground	River Ems	Floated					
Harporees	Dec. 18	Struck rocks	Görsegaen Harbour	Leaking					
Hoyal	Dec. 16	Collision	Gronsvund	Not stated					
Huxter	Dec. 17	Aground	Kohlbrand	Floated					
Hodder	Dec. 18	Stranded	Nr. Goole	rudder; sternpost					
Henriette	Dec. 22	Ashore	Curton Beach	Not stated					